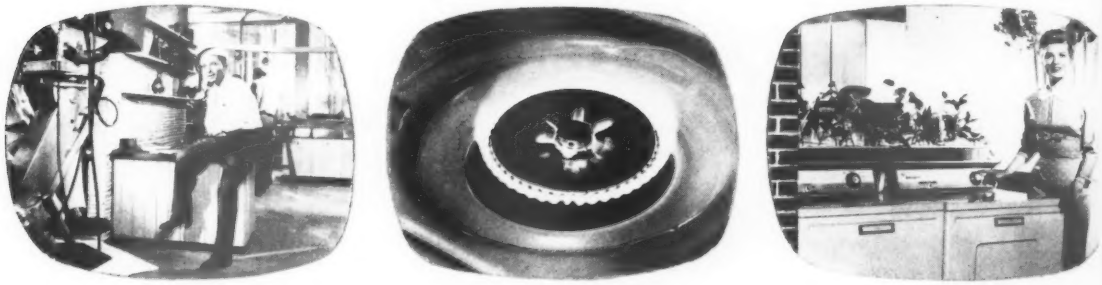
AMERICAN GAS ASSOCIATION

Monthly

LET'S KEEP GAS IN THE TV PICTURE

LET'S KEEP GAS IN THE TV PICTURE



LET'S KEEP GAS IN THE TV PICTURE

APRIL
1958

The sizzle came by pipeline

So *many* people are able to enjoy safe, reliable, low-cost gas cooking today because natural gas is transported over long distances by dependable *underground* pipelines. There's never an interruption of service due to bad weather.

Without protection from underground corrosion, however, these big steel pipelines would soon rust away. This *doesn't* happen because most of them are protected with a tough, life-saving "skin" of coal tar coatings. Today, gas and oil lines from coast to coast are protected with PITT CHEM coal tar coatings—one of the principal products of Pittsburgh Coke & Chemical Company's Protective Coatings Division.

PITT CHEM really stands for a whole *family* of versatile corrosion fighters. For example, PITT CHEM "*Tarset*", a unique combination of coal tar and epoxy resin, provides industry with an effective solution to many of its "impossible" corrosion problems in the marine, petroleum and chemicals fields. And PITT CHEM "*Insul-Mastic*" gilsonite mastics set the industry's standard for economical, moisture barrier coatings.

If *you* have an unusual corrosion problem, perhaps a PITT CHEM protective coating is your answer. Call or write for more information from Pittsburgh Coke, *a basic and integrated producer*.

PITTSBURGH
COKE & CHEMICAL CO.

WSW 7043

COAL CHEMICALS • PROTECTIVE COATINGS • PLASTICIZERS • ACTIVATED CARBON • COKE • CEMENT • PIG IRON

This ad appearing in "Newsweek" and "Business Week" is one of a series by Pittsburgh Coke & Chemical creating favorable comment for gas

The gas industry asked to rally behind drive to continue its national TV show. Details on page 2

DEADLINE for Decision. That could be a title for a TV story, and that's just what it is—in a way. Not the TV plot you most often think of, but a real life episode with you, the gas executive, playing a leading role. If the gas industry is to continue telling its story on a national television show, it must decide to do so by May 1, or throw in the towel. Dean H. Mitchell and members of his National Gas Industry Television Committee are urging gas leaders to continue sponsoring "Playhouse 90" or a program of equal stature. Our contracts and commitments expire in September, and fall network schedules are planned several months in advance. For details, turn to page 2. . . . If Confucius were alive today, then that Chinese sage of ancient times no doubt would leave at least one more philosophical saying on the records. It probably would be something like this: "Confucius say it is best for son of noble Chinese to cook with gas." So much for the nonsense, but on pages 12 and 13, you'll find ample reason to agree with this latest of Confucius utterances. Chinese cooking *is* best with gas. And the Chinese prove it. . . . Proved recoverable reserves reached an all time high in 1957 with more than 246 trillion cubic feet. Details begin on page 4.

JAMES M. BEALL
DIRECTOR, PUBLIC INFORMATION

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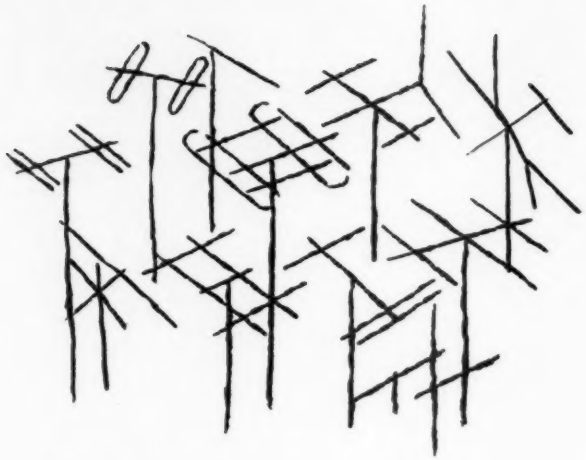

The fate of gas industry TV sponsorship hangs in the balance. The decision on whether to continue must be made now

Deadline for decision

April is a month of decision for the gas industry.

This is the month the industry must decide whether or not it will continue its national television program. Present network contracts expire in September. To assure renewal of "Playhouse 90" or a program of equal stature, the gas industry must raise sufficient subscriptions by May 1.

To make this possible, A. G. A.'s newly reorganized National Gas Industry Television Committee has opened an intensive campaign to gain wider industry participation in its national television activity. The new committee, which now reports directly to the PAR Committee, is responsible for securing financial support and formulating over-all policy in connection with the TV program.

Dean H. Mitchell, president of Northern Indiana Public Service Co., heads the committee in its drive to keep the gas industry on national television.

Mr. Mitchell, a past president of A. G. A., pointed out that the gas industry is established in national television in a major way. "The years of planning and the novelty of the early months of seeing gas on a nationwide television network have given way to a sustained television campaign which has become the very cornerstone of our promotion and advertising effort," he said.

"Week after week, through television," he continued, "the story of gas is being convincingly told in some 13 million homes before 23 million viewers from coast to coast. I urge that each gas utility, manufacturing concern, and transmission company give this matter immediate attention and help us keep gas in the TV picture by sending in their subscription at the earliest possible date."

Industry leaders agree it is imperative that the gas industry continue to tell its story on television. Although the appliance business including gas ranges was off in 1957—the first year of the gas industry's national TV sponsorship—gas ranges, presented extensively on TV, declined at a slower rate than other appliances. And for the first time in years, the gas industry's share-of-market increased.

Inroads have been made on the advertising advantage long held by the competition. However, it is no secret that, despite recent cutbacks by electric appliance advertisers, the gas industry still is out-advertised 2½ to 1 on directly competitive appliances alone. This doesn't include the millions of dollars invested in the "Housepower" and "Live Better Electrically" campaigns.

From the standpoint of national TV, the electric manufacturers sponsor ten times more air time each week than the gas industry's voice on "Playhouse 90." Hence, the task of changing people's attitudes—those with preference for electric over gas appliances—has only begun. The gas industry must keep them sold week after week, year after year.

Mr. Mitchell said that if the industry is to secure a desirable program and time franchise for the broadcast season starting in the fall, it must place an order in May when the networks are completing their fall schedules.

When the gas industry's dreams for a national TV show were finally realized, it was fortunate to secure a program

National Gas Industry Television Committee

Dean H. Mitchell, committee chairman, urges gas companies to "keep gas in the TV picture by sending in subscriptions at the earliest date possible"

Dean H. Mitchell, Northern Indiana Public Service Co., Chairman
Fred W. Batten, Columbia Gas System Service Corp.
Marvin Chandler, Northern Illinois Gas Co.
J. H. Collins, Sr., New Orleans Public Service Inc.
B. G. Duncan, Piedmont Natural Gas Co., Inc.
T. H. Evans, Equitable Gas Company
C. H. Gueffroy, Portland Gas & Coke Co.
J. J. Hedrick, The Peoples Gas Light & Coke Co.
Hansell Hillyer, South Atlantic Gas Co.
D. A. Hulcy, Lone Star Gas Company
F. A. Kaiser, Michigan Consolidated Gas Co.
Carl D. Kantner, Citizens Gas & Coke Utility
Theodore H. Kendall, South Jersey Gas Company
Julius Klein, Caloric Appliance Corp.
W. H. Ligon, Nashville Gas Company
Charlton H. Lyons, Mid-Continent Oil & Gas Association
B. A. McCandless, Milwaukee Gas Light Co.
John C. Peterson, The Manufacturers Light & Heat Co.
H. V. Potter, Oklahoma Natural Gas Co.
R. A. Puryear, Jr., Alabama Gas Corp.
J. J. Quinn, Boston Gas Company
R. W. Ramsdell, The East Ohio Gas Company
W. F. Rockwell, Jr., Rockwell Manufacturing Co.
J. C. Sackman, Northern Indiana Public Service Co.
E. D. Smith, The Dayton Power & Light Co.
Wilmot O. Smith, Long Island Lighting Company
Guy W. Wadsworth, Jr., Southern Counties Gas Co. of Calif.
Tom Walker, Transcontinental Gas Pipe Line Corp.
Allen D. Schrodt, American Gas Association, Secretary

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that has proved to be one of the highest rated in television. "Playhouse 90" won a major share of "Emmy" awards last season, and it has just been announced that the series has received 12 nominations for "Emmy" awards for shows presented during the current season, tops for any series.

The selection of "Playhouse 90," or a program of comparable stature for the industry's third year on TV, will depend on the success of the subscription campaign. However, whatever program is selected, it will represent the best buy available for the gas industry in relation to available funds.

Mr. Mitchell recently described the gas industry's entry into the TV medium as a "magnificent venture which must continue and be permitted to yield its full return." Telling how the TV program has benefited the industry in the financial community, he quoted L. S. Reis, president of Reis and Chandler, security analysts.

Mr. Reis said, "The entrance of the gas industry into the television field on a national basis is an expression of the industry's own confidence in its future—a signal to investors that the gas people are on the march. It was a major step in overcoming a reservation investors have had in the past about buying gas stocks."

"The trouble," Mr. Reis was quoted as saying, "is that the gas industry was being out-advertised by its competitors, thus allowing competition to build up long-range attitudes in the consumer's mind that would tend to limit, if not actually jeopardize, our investments."

Mr. Mitchell said he believed that if the television activity served no other purpose, it would be worth its price if, in the financial community, it could create the feeling that the gas industry is going places and is actively competitive in every facet of its operations, including advertising.

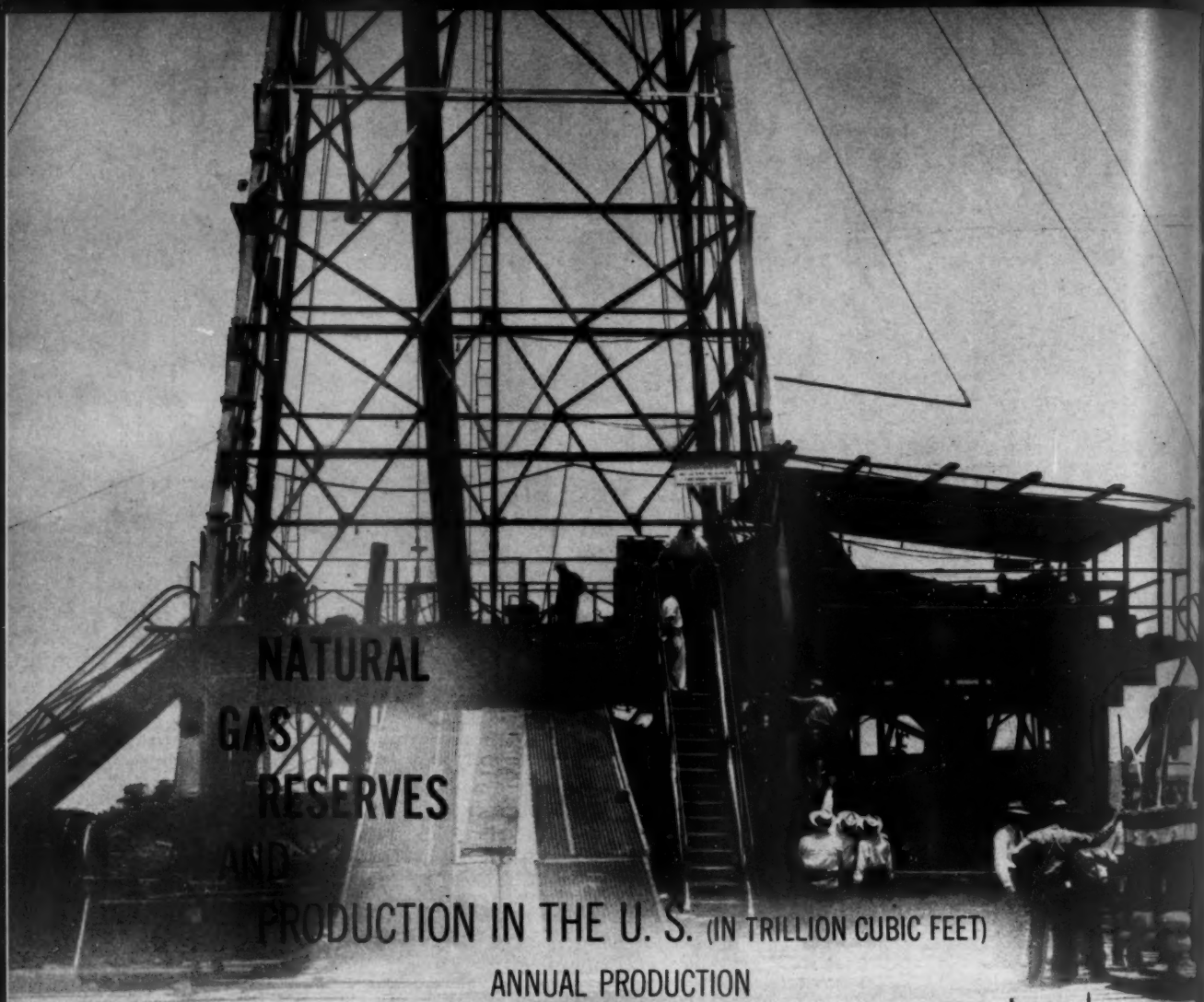
Joint industry cooperation has brought to each utility's area a national TV program that affords each local utility a large audience at a lower cost than usually can be purchased locally. In each area where "Playhouse 90" is seen, the local utility is the sponsor so far as present and prospective customers are concerned.

Specifically, participating utilities receive:

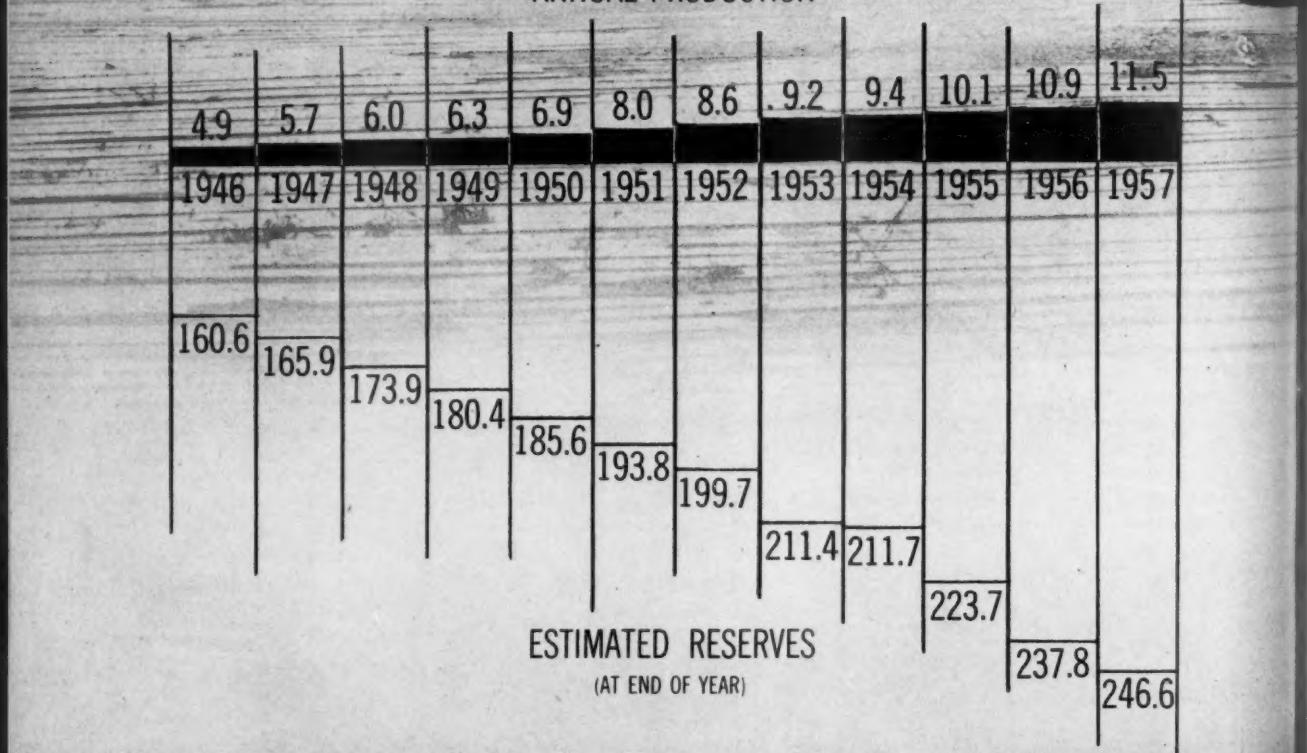
1. A top-flight program of national prestige.
2. Mid-evening class AA network time.
3. Consistently high ratings and tremendous audience.
4. Gas sales personalities of the eminence of Julia Meade and Bing Crosby.
5. Selling commercials of the highest quality available for local as well as national use.

Without "Playhouse 90," the industry's most successful promotion in its history would not have been possible. The 1957 Bing Crosby White Christmas Promotion came during the gas industry's first year on television. Without network TV, the industry could not have built a promotion with the combined force of print and broadcast advertising at the national and local level. Top promotions like this are made possible only through national television.

Such a franchise is considered too valuable to lose—so sign up today.



NATURAL GAS RESERVES AND PRODUCTION IN THE U. S. (IN TRILLION CUBIC FEET)



Reserves climb to all-time record

Proved recoverable natural gas reserves in the United States climbed to an all-time record of more than 246 trillion cubic feet in 1957. This was announced in a report released jointly by the Committee on Natural Gas Reserves of the American Gas Association and the American Petroleum Institute.

A net gain of 8.8 trillion cubic feet was the fourth greatest in the natural gas industry's history. This substantial increase was realized even though total net production during 1957 climbed to a peak figure of 11.5 trillion cubic feet, topping the previous record of 10.9 trillion cubic feet reported a year earlier.

Additions to natural gas reserves during 1957 aggregated 20.3 trillion cubic feet. This included nine trillion cubic feet of new discoveries, the best year on record—surpassing the previous high of seven trillion cubic feet in 1953. Extensions and revisions of earlier estimates amounted to 11.1 trillion cubic feet and an increase of 180 billion cubic feet was reported in underground storage.

Estimated proved recoverable reserves have increased from 165.9 trillion to 246.6 trillion cubic feet since 1947, a net gain of 80.7 trillion cubic feet—or nearly 49 per cent.

During the past 12 years, covering the period A. G. A. has published reserves statistics, new additions to prove recoverable reserves have exceeded total net production by 97.4 trillion cubic feet. Based on current production rates, this gain represents an additional 8½-year supply of natural gas.

New discoveries of natural gas liquids also reached an all-time high last year, totaling 128.5 billion barrels.

Canadian natural gas reserves, reported by the Canadian Petroleum Association, climbed to 20.7 trillion cubic feet last year, compared with 19 trillion at the end of 1956. Net production of 277 billion cubic feet was reported against reserve additions of two trillion cubic feet.

Table 3 summarizes the committee's annual estimates of proved natural gas reserves for the past 13 years, reflecting the changes in the natural gas reserve position in the U. S. during each of the 12 years since Dec. 31, 1945. Table 4 shows the proved natural gas liquids reserves of the U. S. for the past 12 years, and the changes which have taken place in these reserves annually since the first estimate was made Dec. 31, 1946.

To arrive at an estimate of the total proved liquid hydrocarbon reserves in the U. S., natural gas liquids reserves shown in Table 2 have been added to the reserves of crude oil estimated by the Committee on Petroleum Reserves of the American Petroleum Institute. The total liquid hydrocarbon reserves are shown in Table 4 of the report of the Committee on Petroleum Reserves.

The committee has continued the practice, begun in the report of Dec 31, 1948, of reporting as a part of the proved reserves, the volume of gas in underground storage reservoirs. Since Dec. 31, 1953, these figures have been based on data furnished by the Committee on Underground Storage of the American Gas Association.

Prior to the report of Dec. 31, 1953, the native gas remaining in a storage reservoir when injection began was classified and listed, for the most part, as a non-associated natural gas reserve. It was not included in the underground storage figure. Beginning with the Dec. 31, 1953 report, all gas, including native and stored gas, is included in the underground storage figures.

Adjustments in, withdrawals from, or additions to storage are included in the figures shown under the heading "Net Change in Underground Storage." Net gas production is the gross production from producing reservoirs less that gas returned to producing reservoirs in cycling and repressuring. Gas withdrawn from storage is not considered as production;

COMMITTEE ON NATURAL GAS RESERVES

Ed Parkes (chairman), United Gas Corp.
R. M. Bauer, Southern California Gas Co.
W. F. Burke, Lone Star Gas Co.
L. W. Folsom, Mountain Fuel Supply Co.
R. O. Garrett, Texas Gas Exploration Corp.
B. B. Gibbs, Union Producing Co.
C. C. Hoffman, Cities Service Gas Co.
F. S. Lott, U. S. Department of the Interior
E. D. Pressler, Humble Oil and Refining Co.
E. E. Roth, Columbia Gas System Service Corp.
D. R. Scherer, Southern Natural Gas Co.
J. T. Scopes, Union Producing Co.
C. E. Turner, Phillips Petroleum Co.
Daniel Parson (secretary), American Gas Association

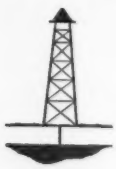
likewise no reduction in the "Net Gas Production" has been made for that part of such production which was injected into underground storage reservoirs.

In view of the great diversity of pressure bases specified by different jurisdictions throughout the U. S., attention is drawn to the fact that natural gas reserves estimates published in this and previous reports of this committee have been based on standard conditions of 14.65 psia and 60°F.

The committee pointed out that it is often not possible to estimate the total reserves of a field in the year of its discovery. Satisfactory estimates can be made only after there has been sufficient drilling in the fields and, in some cases, adequate production history established.

For these reasons, the reserves listed as discovered during any current year must be considered only as the reserves indicated by the drilling in that year. The reserves of all fields and pools are reviewed and revised upward or downward in each succeeding annual report to reflect additional information on preceding estimates. These changes are shown as "Extensions and Revisions."

The procedure followed in estimating and assembling the proved reserves figures is the same as that used in past



NATURAL GAS

	Dec. 31, 1957	Dec. 31, 1956 (Thousands of cubic feet)	Increase 1957 Over 1956
Reserves, Natural Gas	246,569,255,000	237,774,569,000	8,794,686,000

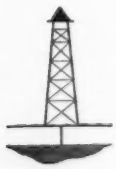
	1957	1956	Increase 1957 Over 1956
Production, Natural Gas	11,502,359,000	10,907,926,000	594,433,000

The production figures for 1957 are net after deducting the amount of gas returned to reservoirs for cycling and pressure maintenance.

LIQUID HYDROCARBON RESERVES

RESERVES	Dec. 31, 1956	Dec. 31, 1957 (Barrels of 42 gallons)	Change 1957 vs. 1956
Crude Oil	30,434,649,000	30,300,405,000	—134,244,000
Natural Gas Liquids	5,902,332,000	5,687,360,000	—214,972,000
Total Liquid Hydrocarbons	36,336,981,000	35,987,765,000	—349,216,000

PRODUCTION	1956	1957 (Barrels of 42 gallons)	Change 1957 vs. 1956
Crude Oil	2,551,857,000	2,559,044,000	+ 7,187,000
Natural Gas Liquids	346,053,000	352,364,000	+ 6,311,000
Total Liquid Hydrocarbons	2,897,910,000	2,911,408,000	+ 13,498,000



NATURAL GAS RESERVES

(Thousands of Cubic Feet—14.65 psia, at 60°F)

Total proved reserves as of Dec. 31, 1956		237,774,569,000
Extensions and revisions of previous estimate during the year of 1957	11,118,319,000	
New reserves discovered in 1957	8,998,993,000	
Net changes in underground storage during 1957	179,733,000	
Total proved reserves added and net changes in underground storage during 1957		20,297,045,000
Total proved reserves as of Dec. 31, 1956 and additions during 1957		258,071,614,000
Deduct production during 1957		11,502,359,000
Total proved reserves of natural gas as of Dec. 31, 1957		246,569,255,000

Reserves data are shown by states in Table 1.

NATURAL GAS LIQUIDS RESERVES

(Barrels of 42 U. S. gallons)

Total proved reserves as of Dec. 31, 1956		5,902,332,000
Extensions and revisions of previous estimate during the year of 1957	8,884,000	
New reserves discovered in 1957	128,508,000	
Total proved reserves added in 1957		137,392,000
Total proved reserves as of Dec. 31, 1956, and new proved reserves added in 1957		6,039,724,000
Deduct production during 1957		352,364,000
Total proved reserves of natural gas liquids as of Dec. 31, 1957		5,687,360,000

Reserves data are shown by states in Table 2.

TABLE 1
ESTIMATED PROVED RECOVERABLE RESERVES OF NATURAL GAS IN THE UNITED STATES

(Millions of Cubic Feet—14.65 psia, at 60 Deg. F)

	Changes in Reserves during 1957				Reserves[b] as of December 31, 1957				
	Reserves as of Dec. 31, 1956[b] (1)	Extensions and Revisions[b] (2)	Discoveries of New Fields and New Pools in Old Fields[b] (3)	Net Change in Underground Storage[c] (4)	Net Production[d] (5)	Total (Columns 7 + 8 + 9 + 10, also Columns 1 + 2 + 3 + 4 less Column 5) (6)	Non-Associated[e] (7)	Associated[f] (8)	Dissolved[g] (9)	Underground Storage[h] (10)
Arkansas	1,171,527	103,994	47,818	145	40,462	1,283,022	746,150	294,187	237,943	4,742
California[i]	8,751,233	516,043	144,989	12,616	471,988	8,952,893	2,387,342	2,035,866	4,451,261	78,424
Colorado	2,422,769	40,381	55,244	1,385	139,100	2,380,679	1,689,189	120,895	565,919	4,676
Illinois	219,705	(—)36,175	0	2,085	19,243	166,372	5,442	500	130,701	29,729
Indiana	33,772	0	270	950	4,040	30,952	1,750	1,680	19,351	8,171
Kansas	17,566,257	2,136,392	218,473	565	625,709	19,295,978	18,628,827	283,726	326,227	57,198
Kentucky	1,245,602	43,714	7,640	(—)2,911	69,000	1,225,045	1,142,060	0	64,117	18,868
Louisiana[i]	45,053,999	4,137,189	4,366,891	0	2,122,125	51,435,954	40,804,849	7,474,784	3,156,321	0
Michigan	361,786	46,625	1,750	44,015	10,148	444,028	84,941	22,788	58,192	278,107
Mississippi	2,403,326	70,809	28,983	462	205,840	2,297,740	1,551,952	475,940	267,171	2,677
Montana	696,351	649	957	4,324	31,831	670,450	515,382	40,823	79,140	35,105
Nebraska	225,402	(—)9,014	1,734	0	28,783	189,339	114,997	12,315	62,027	0
New Mexico	23,472,707	(—)684,776	215,588	(—)1,684	743,826	22,258,009	16,675,018	4,055,991	1,477,156	49,844
New York	85,249	3,200	800	7,249	3,116	93,382	37,962	0	233	55,187
North Dakota	397,493	193,105	170,232	0	17,398	743,432	105,996	0	637,436	0
Ohio	853,607	49,900	8,850	21,718	32,261	901,814	557,215	0	39,460	305,139
Oklahoma	13,775,049	577,123	839,797	12,080	944,569	14,259,480	7,039,245	3,451,540	3,666,629	102,066
Pennsylvania	776,212	141,521	14,880	27,986	107,004	853,595	470,958	0	28,715	353,922
Texas[i]	112,728,750	3,197,704	2,665,334	11,506	5,518,776	113,084,518	71,443,050	25,782,103	15,830,624	28,741
Utah	619,786	192,436	65,154	0	18,082	859,294	566,934	19,073	273,287	0
Virginia	35,557	3,375	1,125	0	2,536	37,521	37,521	0	0	0
West Virginia	1,561,737	131,686	27,960	23,524	183,977	1,560,930	1,262,271	0	66,033	232,626
Wyoming	3,235,932	261,026	113,798	796	154,119	3,457,433	2,551,332	221,829	665,257	19,015
Miscellaneous[a]	80,761	1,412	726	12,922	8,426	87,395	52,988	0	16,676	17,731
TOTAL	237,774,569	11,118,319	8,998,993	179,733	11,502,359	246,569,255	168,473,371	44,294,040	32,119,876	1,681,968

[a] Includes Alabama, Arizona, Florida, Iowa, Maryland, Missouri and Nevada.
[b] Excludes gas loss due to natural gas liquids recovery.
[c] The net difference between gas stored in and gas withdrawn from underground storage reservoirs, inclusive of adjustments and native gas transferred from other reserve categories.
[d] Net production equals gross withdrawals less gas injected into producing reservoirs. Changes in underground storage and gas loss due to natural gas liquids recovery are excluded. Fourth quarter production estimated in some instances.
[e] Non-associated gas is free gas not in contact with crude oil in the reservoirs; and free gas in contact with oil where the production of such gas is not significantly affected by the production of crude oil.
[f] Associated gas is free gas in contact with crude oil in the reservoir where the production of such gas is significantly affected by the production of crude oil.
[g] Dissolved gas is gas in solution with crude oil in the reservoirs.
[h] Gas held in underground reservoirs (including native and net injected gas) for storage purposes.
[i] Includes off-shore reserves.

TABLE 2
ESTIMATED PROVED RECOVERABLE RESERVES OF NATURAL GAS LIQUIDS IN THE UNITED STATES[a]

(Thousands of Barrels of 42 U. S. Gallons)

	Changes in Reserves during 1957			Reserved as of December 31, 1957			
	Reserves as of Dec. 31, 1956 (1)	Extensions and Revisions (2)	Discoveries of New Fields and New Pools in Old Fields (3)	Net Production (4)	Total (Columns 6 + 7 + 8, also Columns 1 + 2 + 3 Less Column 4) (5)	Non-Associated (6)	Associated (7)	Dissolved (8)
Arkansas	42,467	(—)2,501	89	2,915	37,140	4,503	21,152	11,485
California[d]	311,728	23,085	585	29,669	305,729	0	93,882	211,847
Colorado	11,545	173	80	833	10,965	2,304	683	7,978
Illinois	16,772	(—)3,255	0	1,724	11,793	27	11,763	3
Indiana	133	(—)3	5	21	114	9	97	8
Kansas	171,615	21,698	2,191	6,349	189,155	180,837	4,617	3,701
Kentucky	7,251	275	138	1,957	5,707	5,707[c]	0	0
Louisiana[d]	1,014,942	(—)10,580	61,895	47,059	1,019,198	794,152	189,390	35,656
Michigan	1,068	246	19	96	1,237	425	114	698
Mississippi	56,003	1,016	398	3,016	54,401	29,388	19,403	5,610
Montana	8,145	(—)13	0	327	7,805	0	0	7,805
Nebraska	6,504	1,364	78	811	7,135	5,152	754	1,229
New Mexico	414,099	(—)82,570	4,343	15,324	320,548	205,372	45,168	70,008
North Dakota	19,000	0	5,000	1,300	22,700	5,000	0	17,700
Ohio	1,669	144	16	19	1,810	1,810[c]	0	0
Oklahoma	355,588	7,334	13,818	34,097	342,643	100,176	62,960	179,507
Pennsylvania	3,167	261	131	99	3,460	3,460[c]	0	0
Texas[d]	3,379,889	51,756	38,955	198,983	3,271,617	1,329,865	594,705	1,347,047
Utah	95	0	0	4	91	91	0	0
West Virginia	26,741	798	266	4,893	22,912	22,912	0	0
Wyoming	53,874	(—)346	501	2,864	51,165	15,038	763	35,364
Miscellaneous[b]	37	2	0	4	35	18	0	17
TOTAL	5,902,332	8,884	128,508	352,364	5,687,360	2,706,246	1,045,451	1,935,663

[a] Includes condensate, natural gasoline and liquefied petroleum gas.
[b] Includes Alabama, Florida and Missouri.
[c] Not allocated by types but occurring principally in the column shown.
[d] Includes off-shore reserves.

reports. A proved reserve may be in either the drilled or undrilled portion of a given field. When the undrilled area is considered proved, it is so related to the developed acreage and the known field geology and structure that its productive ability is considered assured.

Proved recoverable reserves of natural gas are those reserves estimated to be producible under present operating practices, with no consideration being given to their ultimate use.

Since the estimates are made by pools, the recovery factors or abandonment pressures used in the calculations are governed by the operating conditions in each individual pool. Proved recoverable reserves of natural gas liquids are those contained in the recoverable gas reserves subject to being produced as natural gas liquids by separators or extraction plants, now in operation, under construction or planned for the immediate future. For purposes of developing reserve estimates, natural gas liquids are defined as those hydrocarbon liquids which are gaseous or in solution with crude oil in the reservoir and which are recoverable as liquids by the processes of condensation or absorption which take place in field separators, scrubbers, gasoline plants, or cycling plants.

Natural gasoline, condensate, and liquefied petroleum gases fall in this category. While the liquids so collected and the products derived from them in some of the modern plants are known by a variety of names, they have been grouped together here under the general heading "Natural Gas Liquids."

The estimates presented here incorporate the results of carefully detailed studies of many hundreds of fields and pools. Their preparation has required the help and active cooperation of specially trained geologists and engineers familiar with developments in all producing areas. The committee is fortunate to have obtained the help of the group of men who have served as subcommittee members.

The committee also acknowledges the helpful cooperation of the Committee on Petroleum Reserves of the American Petroleum Institute, on whose estimates of crude oil reserves the estimates of dissolved gas reserves are based, and the Committee on Underground Storage of the American Gas Association, who supplied the data on which the underground storage figures are based.

TABLE 3 SUMMARY OF ANNUAL ESTIMATES OF NATURAL GAS RESERVES FOR PERIOD DECEMBER 31, 1945 TO DECEMBER 31, 1957

(Millions of Cubic Feet—14.65 psia, at 60 Deg. F)

Year	Natural Gas Added During Year: Extensions and Revisions	Discoveries of New Fields and New Pools in Old Fields	Total of Discoveries, Revisions and Extensions	Net Change in Underground Storage	Net Production During Year	Estimated Proved Reserves as of End of Year	Increase Over Previous Year
1945	—	—	—	—	—	147,789,367	—
1946	a	a	17,729,152	a	4,942,617	160,575,901	12,786,534
1947	7,570,654	3,410,170	10,980,824	a	5,629,811	165,926,914	5,351,013
1948	9,769,483	4,129,089	13,898,572	51,482	6,007,628	173,869,340	7,942,426
1949	8,061,429	4,612,870	12,674,299	82,746	6,245,041	180,381,344	6,512,004
1950	9,172,381	2,877,351	12,049,732	54,301	6,892,678	185,592,699	5,211,355
1951	13,013,606	3,039,385	16,052,991	132,751	7,966,941	193,811,500	8,218,801
1952	8,934,470	5,411,043	14,345,513	198,850	8,639,638	199,716,225	5,904,725
1953	13,371,355	7,081,661	20,453,016	516,431[b]	9,238,540	211,447,132	11,730,907
1954	4,632,309	4,966,894	9,599,203	90,906	9,426,509	211,710,732	263,600
1955	16,298,125	5,719,069	22,017,194	87,637	10,118,118	223,697,445	11,986,713
1956	19,214,604	5,636,476	24,851,080	133,970	10,907,926	237,774,569	14,077,124
1957	11,118,319	8,998,993	20,117,312	179,733	11,502,359	246,569,255	8,794,686

a Not estimated.
b All native gas in storage reservoirs formerly classified as a natural gas reserve is included in this figure.

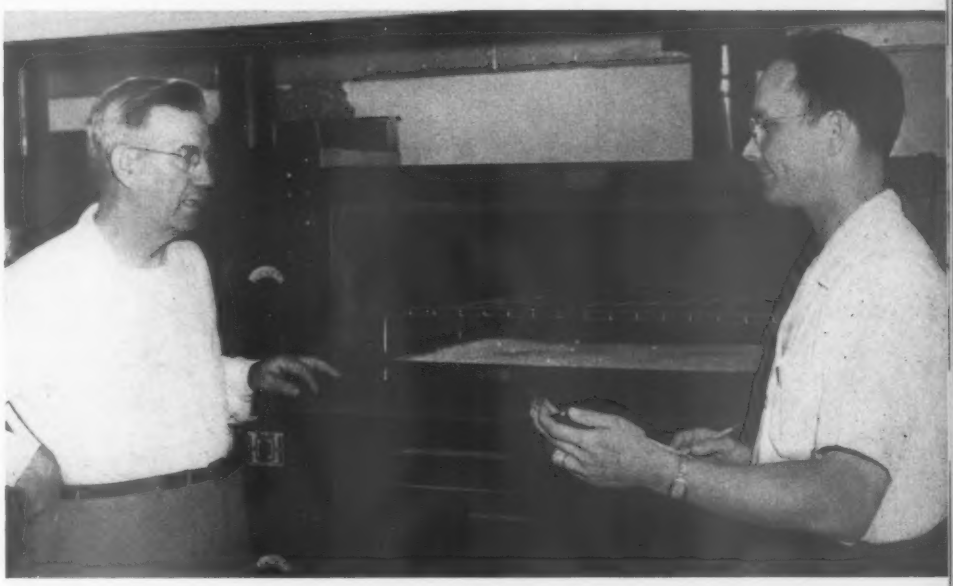
TABLE 4 SUMMARY OF ANNUAL ESTIMATES OF NATURAL GAS LIQUIDS RESERVES FOR PERIOD DECEMBER 31, 1946 TO DECEMBER 31, 1957

(Thousands of Barrels of 42 U. S. Gallons)

Year	Natural Gas Liquids Added During Year: Extensions and Revisions	Discoveries of New Fields and New Pools in Old Fields	Total of Discoveries, Revisions and Extensions	Net Production During Year	Estimated Proved Reserves as of End of Year	Increase Over Previous Year
1946	—	—	—	129,262	3,163,219	—
1947	192,237	59,301	251,538	160,782	3,253,975	90,756
1948	405,874	64,683	470,557	183,749	3,540,783	286,808
1949	294,211	92,565	386,776	198,547	3,729,012	188,229
1950	707,879	58,183	766,062	227,411	4,267,663	538,651
1951	648,497	75,494	723,991	267,052	4,724,602	456,939
1952	475,170	81,668	556,838	284,789	4,996,651	272,049
1953	648,047	95,922	743,969	302,698	5,437,922	441,271
1954	20,830	86,520	107,350	300,815	5,244,457	(—)193,465
1955	447,160	67,348	514,508	320,400	5,438,565	194,108
1956	715,764	94,056	809,820	346,053	5,902,332	463,767
1957	8,884	128,508	137,392	352,364	5,687,360	(—)214,972

Commercial census can aid sales

Equitable Gas made a complete study of its commercial market



By F. B. JONES

Manager
Economic and
Management Research
Equitable Gas Co.

Most utility marketing research studies relate to the residential market, where substantial uniformity of customer characteristics exists among the individual customers. Yet, for most companies distributing natural gas, the residential market represents only about 50 per cent of the total retail sales.

Sales to the commercial and industrial customers account for approximately the other 50 per cent. Of this about 15 per cent goes to the commercial classification and about 35 per cent to the industrial classification. In some companies, however, the proportion of total sales to the commercial classification may be even higher than 15 per cent, with a corresponding smaller percentage being sold to the industrial customers. Obviously, for efficient market management, well-thought-out studies should be made of these other two markets.

It is the commercial customer—the in-between group—who offers one of the most difficult marketing problems to the average or typical utility distributing natural or mixed gas. The purpose of this article is to discuss some of the general problems involved in studies of this market, and also to cite, as an example, the experience of the Equitable Gas Co., which in 1955 made a complete census of its commercial market.

A company interested in studying its present and potential commercial market should initially start with a consideration of its definition of the commercial customer classification. Obviously, different utilities use different definitions to fit conditions in their particular service area, and sometimes to conform to their rate structure.

In 1952 the American Gas Association issued a standard or suggested definition for customer classifications. According to this definition, the commercial service applies to customers engaged in selling, warehousing, or distributing a commodity in some business activity or in a profession, or in some other form of economic or social activity. It also applies to service that is not directly in one of the other classifications.

Any definition of commercial service similar to that recommended by the American Gas Association means that the commercial classification will have a wide variety of customers from the standpoint of: (a) customer function; (b) gas use habits; (c) appliances in use; and (d) sizes measured by actual or potential consumption.

If one knows in advance of the study the number of customers in the various major sub-classifications within the commercial classification, then there is some prospect that the sample approach could be satisfactorily used. An example is when a utility's commercial customers are already classified by such sub-classifications as was found by our census and as later detailed in this article.

In the spring of 1955 Equitable decided to make a comprehensive study of the commercial market for load studies, forecasting, and sales management purposes. The specific objectives of the

census type of study were as follows:

1. To identify the customers who used gas as the principal space heating fuel.
2. To make an inventory of all gas uses.
3. To measure the size of the gas heating load by heated building volume and by estimate of hourly heating input or manufacturer's rating.
4. To measure and identify the maximum annual heating and process potential sales to existing accounts.
5. To classify accounts by customer functions.
6. To reclassify present commercial accounts to the residential or industrial classification if they did not fall within our definition of commercial accounts.

These six specific objectives made a census mandatory. However, if we had only wanted to know the general characteristics of the commercial customers and did not have a classification count similar to that which resulted from the census, it probably would have been advisable in the initial attempt to study the commercial market by making a census for the purpose of making sub-classifications.

After the classification census had been made, a sampling approach for more detailed studies within sub-classifications might have been possible and practicable. For example, in 1955 a complete census was made in considerable detail, including a complete classification and count of the commercial customers by significant sub-groups.

For a company with incomplete facts about the commercial market, our experience indicates that the initial study should at least be a classification census. In citing this experience, we recognize two distinct types of censuses: (1) a functional classification by type; and (2) complete inventory of gas and competitive fuel uses and customer functions.

In the winter and spring months of 1955 a complete census was planned. On Jan. 1, 1955, Equitable had about 17,000 commercial customers. The first step was to decide what the company wanted to know about the commercial customers. This initial planning is important and, in our case, covered several months of study. It was necessary to design a customer data sheet for uniform reporting. However, before the sheet was finalized, a small cross-section of the commercial classifications consisting of about 100 customers was set up.

The preliminary data sheet was used in connection with these customers as a pilot study or miniature census. The results enabled us to improve the data sheet before it was finalized. It also enabled us to estimate more precisely the time and cost necessary to make the census.

To conduct the field inventory, Equitable hired 20 male public school teachers on a temporary basis to start work at the close of the public school year.

These teachers were given a one-week intensive instruction period, which included practice census calls. Previously, an IBM card for each commercial customer showing name, address, and account number had been prepared, and the cards were grouped into geographical areas for efficiency in field coverage.

The census takers were divided into three groups for field operation. After they became accustomed to the routine of gaining entrance to the customer's premises and obtaining the data necessary to complete the census inventory sheet, they were able to average about 20 calls per day. An office checking group of three experienced people was set up to check the field returns and code them for the key punch operation. The importance of this group cannot be overemphasized, because the best time to detect any inconsistencies or errors in interpreting and recording the field data is at the time the call reports come in from the field.

The complete census project was substantially completed by the time the public school teachers returned to school in September. A few call-backs to reach customers formerly not available and to cover isolated locations remained to be completed. These clean-up calls were handled by the regular marketing research staff. The total cost of the project was $17,907, or about $1.02 per commercial account.

The fifth specific objective of our census was a classification of the commercial accounts by customer function. The wide variety of customer sizes and functions found are indicated by the count of sub-classifications resulting from our project as shown in the chart at left.

From such a customer census, one can collect a wide variety of facts which can be analyzed for many management and sales purposes. Up to this time the following uses have already been made on the census data, some of which are continuing.

1. From the completed calls 4,310 changes were furnished to the billing division, involving name and addresses, heating identifications, and classifications.
2. Furnished 1,777 names and addresses of customers using other fuels to the commercial sales division for specific direct sales coverage.
3. Prepared load studies measuring the total hourly Btu input of heating equipment and the annual volume of gas used for heating purposes.

(Continued on page 36)

COMMERCIAL CUSTOMERS FOUND IN THE 1955 COMMERCIAL CENSUS BY MAJOR FUNCTION

Type of Customer by Major Function	%	No.
Apartment Houses	12.09	2,072
Housing Projects	0.11	19
Miscellaneous Residential Structures	1.00	171
Hospitals and Sanitariums	0.50	86
Hotels	0.73	125
Rooming Houses, Dormitories, etc.	0.92	157
Total Residential-type Commercial Structures	15.35	2,630
Schools and Churches	6.83	1,170
Organizations and Associations	3.99	684
Service Establishments	34.63	5,934
Retail Stores	23.01	3,943
Eating Establishments and Bars	9.69	1,661
Wholesale Stores	3.37	578
Recreational and Amusement Facilities	1.04	178
Total Other Than Residential-type Structures	82.56	14,148
Manufacturing-type Organizations	2.09	358
Total Commercial Customers in the Census	100.00	17,136

President Eisenhower favors bill that would streamline wage reporting, cutting much wasted motion and saving employers an estimated $22 million a year

Cutting costs of federal reports

By T. G. REDMAN
Comptroller
Swift & Company

Legislation which allegedly would save employers $22,000,000 a year and would also create additional large savings for the federal government received new impetus last January in President Eisenhower's budget message to Congress.

It's a bill for streamlining wage reporting procedures for payroll tax purposes. Its adoption would cut out a lot of wasted motion and duplication of effort.

The measure, introduced in the 84th and the first session of the 85th Congress, has had some powerful endorsers in addition to the President—the Internal Revenue Service, the Social Security Administration and the Hoover Commission Task Force on Paper Work Management.

It was also endorsed by the Federal Bureau of the Budget and the Advisory Council on Federal Reports, the latter a business group sponsored by the Controllers Institute of America among six others and established in 1942 at the request of the director of the U. S. Bureau of the Budget.

Its function is to advise the bureau on the reduction of burden and costs of business report-filing to federal agencies, record-keeping requirements and to make statistical improvements.

Even with these endorsements and much obvious merit, the bill never got out of committee! Those in both government and business who are aware of the benefits its enactment would produce hope for reintroduction and early approval.

Employers currently file four times a year an "employer's quarterly federal tax return," Form 941, accompanied by a list (schedule A) showing each employe's name, social security number and wages earned during the quarter up to an aggregate of $4,200 for the year. During the fiscal year ended last June 30, 247,457,000 such items were listed by the more than four million employers subject to the Federal Insurance Contributions Act. Earnings reported are used by the Social Security Administration to compute the employe's old-age insurance benefit or survivor benefits payable to members of his family.

In addition to this report, the same employers file annually a "withholding tax statement," form W-2, which to a considerable extent duplicates the information already reported quarterly.

Under the proposed legislation for streamlining wage reporting procedures, the employer would continue to file quarterly the simple and uncomplicated summary figures required on Form 941 and pay the tax due either through monthly deposits or at the time the Form 941 is filed. However, instead of preparing wage listings quarterly on schedule A, he would be required to submit only a "withholding tax statement" for each employe at the end of the year.

Employers' W-2s would be matched mechanically with employes' reports for income tax purposes, and wage credits posted at the same time to the employes' accounts for social security records.

The Hoover Commission said in its report to Congress:

"Immediate savings could be made if legislation were enacted authorizing the necessary changes in Form 941 and 941A (employer's quarterly federal tax return), as recommended by the Internal Revenue Service and Social Security Administration. We recommend that this legislation be enacted.

". . . We commend the Internal Revenue Service and Social Security Administration for proposing this simplification."

Specifically, what are the areas of savings to employers? Consider an employer who reports wages for 10,000 workers each quarter. At a minimum, this involves each year:

(1) Reproducing (typing, IBM or otherwise)
- (a) 40,000 9-digit social security numbers
- (b) 40,000 names of employes
- (c) 40,000 wage items

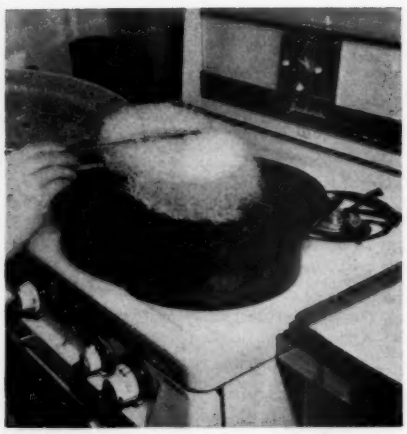
(2) Handling more than 2,000 sheets of schedule A and its continuation sheets
- (a) Numbering
- (b) Grouping into 40 blocks with appropriate summaries
- (c) Mailing expense
- (d) Storage space for, or microfilming of, the copies retained by the employer

(3) Correspondence with the Social Security Administration on about 300

(Continued on page 38)

CHINESE CHEFS SAY GAS BEST

This easily prepared Chinese dish is made up of shrimp with peas and water chestnuts



Cellophane (pea starch) noodles are being lifted from wok. The dish is "Woolly Lamb"

Shown is finished preparation of "Wo... Lamb," ready to be eaten with chop...

There's a shortage of water chestnuts in New York's compact Chinatown. In fact, of late there has been an unusual Occidental demand for many key Chinese food ingredients. Why?

Because New York newspaper and magazine editors and television cooking personalities have been relating to thousands of readers and viewers the how-to-cook-it techniques of such delicacies as Woolly Lamb, Five-Willow Fish, and Crossing-The-Bridge Noodles.

Editors and TV cooking experts were indoctrinated into the intricacies of Chinese cooking via four weekly lecture-demonstrations in February. These sessions, sponsored by the Gas Appliance Manufacturers Association and the China Institute In America, demonstrated that the newest gas ranges are just the thing for centuries-old Oriental cooking techniques.

Capacity audiences of about 70 persons filled the cooking demonstration center in Manhattan's China Institute headquarters for lecture-demonstrations.

The project was extended into March with Chinese cooking and a "gas table" having a prominent place in the "Bride's School" sponsored by the *New York Herald Tribune*. Gas Utilities and American Gas Association representatives attending the school have expressed interest in carrying a measure of such instruction to other areas.

Good reasons for such interest are not hard to find. Chinese cooking essentially is flame cooking—by charcoal or coke in China, with gas in the United States. Professional Chinese cooks use virtually nothing but gas. In fact, products of GAMA's Commercial Division include so-called Chinese ranges, especially designed for their needs.

Chinese cooking of the type demonstrated in the course not only is very good cooking indeed, it is cooking that, in addition to its demands for fast, flexi-

Dorothy Lee, course instructor, shows how to cook pepper steak in skillet-like wok

Thanking editors for their interest is C. S. Stackpole of A. G. A., guest at the school

With food, eating is believing. All the cooking experts were impressed by results

C. L. Wegener, A. G. A. special service representative, explains how to get greatest cooking efficiency when using Chinese wok

All four sessions of GAMA-Chinese Institute cooking school were attended by overflow crowds of editorial and TV cooking experts

ble heat, makes good use of such modern range features as top burner heat control and simmer burners.

It is almost entirely top-of-the-stove cookery—the Chinese, traditionally without ovens, haven't created much fare for them here. Instead there is emphasis on the Ch'ao method of cooking, resembling frying or sauteing in American cookery, but with oils rather than water being used to seal in flavor, linking the flavor of meat and vegetables.

Millions of Americans, introduced to Chinese food in restaurants, are interested in preparing it themselves. An increasing array of Chinese fruits and vegetables are being grown in this country, and mail orders serve those remote from Chinese shops, as of course do new canning and quick freezing projects.

Mrs. Dorothy Lee, China Institute staff member conducting the lecture-demonstrations, intrigued her audience with pea starch noodles that exploded when they hit the hot oil (they're the Cellophane noodles that give Woolly Lamb its name) Five-Willow Fish (the name comes from the leafy pattern of the sauce) and other dishes, all sampled as each session ended.

Mrs. Lee passed along some of the poetry as well as the substance of Chinese cooking, talking of "happy marriages" of foods as she deftly used an ancient Chinese cleaver to chop and mince meat and vegetables for her wok, pleading for won-ton dough rolled "thin as the fins of the graceful goldfish."

The wok is the round-bottomed, double-handled iron pan in which a large part of all Chinese cooking is done. In use it is perched in a metal ring that has holes cut out to fit over the burner grids, plus additional holes to provide air for combustion.

China Institute is dedicated to preserving the traditions of Chinese culture, and considers cookery in this category.

Gas appliance outlook for the years 1958-62

In the next five years (1958-62), you can look for a potential market of more than 57 million new residential gas appliances. That's the finding of a recent Bureau of Statistics analysis.

This potential includes 13.9 million gas ranges, 17.7 million gas water heaters, 5.5 million gas central heating units, 2.9 million gas floor and wall furnaces, 13 million gas space heaters, 3.7 million gas dryers, and 0.5 million gas incinerators.

Not included in this analysis are gas air conditioning equipment and gas refrigerators.

The Bureau of Statistics defines the potential market as "the number of residential gas units which the American economy would purchase under optimum conditions of product improvement and promotion effort, up to the point where incremental effort becomes uneconomic." This definition is considered to be the maximum realistically attainable sales goal, and a criterion against which to evaluate performance.

Some factors considered in the development of such potentials include projections of new residential construction (separately by type of structure), current and historic acceptance of gas and competitive appliances and equipment in new homes, replacement rates of gas appliances and equipment by new gas units.

Also considered were information on replacement of competitive units with gas-fired appliances and equipment, the need for increased heating facilities to provide adequate comfort in homes utilizing floor and wall furnaces or space heaters, and the still substantial although diminishing market for gas water heaters in homes currently without hot water.

Estimates of new housing activity are 1.05 million starts in 1958, gradually increasing to 1.15 million in 1962, with a five-year total of 5.6 million.

If current trends in gas acceptance continue, five-year sales of these appliances and equipment should exceed 45 million units. Thus, a 28 per cent sales increase is possible through efforts of dealers, distributors, manufacturers, and gas companies. In all instances, the calculation of the potential market has been set at conservative levels, with no realistic assumptions regarding the number of appliance purchasers who will use gas rather than a competitive energy source.

During the period 1953-57, gas appliance and equipment sales totaled about 41 million units. This was in a period when residential construction activity was generally maintained at all-time record levels.

In the next five years, new housing will account for 16.1 million units of the potential market, while the replacement of existing appliances and equipment will offer a potential of 38.3 million units. Hot water heaters in existing homes currently without hot water, and additional space heaters and floor and wall furnaces in existing gas-heated homes will account for the remaining 2.8 million units.

POTENTIAL ATTAINABLE MARKET FOR GAS INCINERATORS, 1958-1962

	Total
Potential Attainable Market	
1958	65,000
1959	80,000
1960	100,000
1961	130,000
1962	170,000
Five Years	545,000
Forecast Sales	
1958	50,000
1959	60,000
1960	70,000
1961	85,000
1962	100,000
Five Years	365,000
Estimated Past Sales	
1957	48,500
1956	60,000
1955	65,200
1954	74,200
1953	62,700
Five Years	310,600

In 1958, the potential market for gas appliances and equipment is estimated at 9.6 million units. This compares with 8.1 million units which will be sold if present patterns of acceptance continue, and if greater product improvement and sales promotion efforts are not forthcoming.

Last year, total sales of these same gas appliances and equipment totaled 7.7 million units. The new home market will account for 30 per cent of the 1958; replacements will represent 64 per cent, and other portions of the market (described above) will total 6 per cent.

The five-year market potential for gas ranges is 13.88 million units. If no improvement in product design or promotion effort occurs, sales should total 1.26 million units. Of the total potential, 11.53 million units represent free-standing or conventional ranges, while the potential for built-in ranges is 2.35 million.

Although these totals may seem relatively modest, it is likely that the greatest market for built-in ranges will exist in new housing. The new housing market accounts for only 24.5 per cent of the total potential market for gas ranges. It is estimated that during 1956, 22 per cent of all gas ranges installed in new homes were built-in, while only 2.1 per cent of sales to existing homes represented built-in units.

The greatest five-year improvement is potentially achievable in the replacement of existing gas ranges. A minimum of 5.12 million gas ranges can be sold; however greater effort can accelerate replacement of gas ranges sufficiently to provide a potential market of 9.22 million ranges.

Two-thirds of the market potential represent the replacement of existing gas ranges. Nearly one-fourth reflects installations in new homes, and the remainder represents the replacement of competitive equipment by gas ranges.

The proportion of new homes in which the decision regarding range installation is made by the builder, has been increasing steadily and will probably reach 40 per cent by 1962.

During 1958 a market potential exists for 2.35 million gas ranges, of which 280,000 will be built-in. This compares with anticipated sales of 1.80 million, if present methods are continued, a decline from the 1.97 million sold during 1957.

Forecast sales under present levels of promotion and product development are lower during the next three years than in recent years. The replacement market during this period is directly related to ranges purchased during the low production years of the early 1940's, a circumstance which severely restricts the replacement market.

This factor will equally affect electric range replacements, as available information indicates that the average age at time of replacement for gas and electric ranges is similar.

Improved gas ranges and accelerated promotion efforts could potentially stimulate the replacement of gas ranges at earlier ages, thus bringing into the market a substantial number of ranges sold in the post-war years, and creating significant differentials between the potential market and forecast sales for gas range replacements.

The possibility of a decline from 1957 to 1958 in sales of gas ranges also reflects a probable continuation of new housing construction activity at approximately the same level as last year.

Potential sales of gas ranges will increase gradually each year in the five-year period achieving a level of 3.49 million units in 1962. These potentials, by year and type of installation, and with a further breakdown between free-standing and built-in, together with historical information for the past five years for comparative purposes, are indicated in the table on gas ranges.

The five-year market potential for gas water heaters is 17.66 million units while the 1958 potential is 3.19 million units. Alternatively sales would aggregate 15.32 million during the five years and 2.87 million in 1958 under current conditions.

Sixty-two per cent of the total potential represents replacements of existing gas units, 23 per cent installations in new homes, 9 per cent installations in existing homes with no hot water, and 5 per cent represents replacements of existing hot water heating units using other fuels.

The differentials between achievable market potential and projected sales are least, both percentage-wise and in absolute terms, within the new home market. Gas has already achieved so substantial a degree of acceptance within this area, with 76 per cent of all new homes constructed during the first quarter of 1956 using gas for water heating that further improvements in the new home market can occur only slowly despite promotional efforts.

Nevertheless sufficient efforts should be made to guarantee retention of existing high acceptance, at least, since new home use of gas water heating is influential in improving gas acceptance in the more substantial replacement market. The potential market for water heater replacements in the next five years is 11.79 million units. It is influenced by the inadequate capacity of large numbers of existing water heaters to meet the increasing hot water demands of such home appliances as washing machines and dish washers, and the fact that water heaters sold during 1950-54 (periods of extremely high sales levels) will require replacement during the forthcoming five-year period.

The high degree of consumer satisfaction with gas water heaters insures that most replacements of gas units will be by other gas equipment. Furthermore,

POTENTIAL ATTAINABLE MARKET FOR GAS SPACE HEATERS, 1958-1962

	New Housing	Replace Gas	Replace Competitive	Upgrading	Total
Potential Attainable Market					
1958	210,000	990,000	490,000	160,000	1,850,000
1959	220,000	1,400,000	535,000	175,000	2,330,000
1960	240,000	1,630,000	560,000	190,000	2,620,000
1961	255,000	2,165,000	575,000	215,000	3,210,000
1962	270,000	1,935,000	590,000	235,000	3,030,000
Five Years	1,195,000	8,120,000	2,750,000	975,000	13,040,000
Forecast Sales					
1958	200,000	775,000	395,000	75,000	1,445,000
1959	205,000	1,085,000	380,000	85,000	1,755,000
1960	210,000	1,245,000	365,000	85,000	1,905,000
1961	215,000	1,465,000	335,000	90,000	2,105,000
1962	220,000	1,745,000	310,000	90,000	2,365,000
Five Years	1,050,000	6,315,000	1,785,000	425,000	9,575,000
Past Years' Sales					
1957 (estimated)					1,319,000
1956					1,700,000
1955					1,729,100
1954					1,431,700
1953					1,674,200
Five Years					7,854,000

POTENTIAL ATTAINABLE MARKET FOR GAS CLOTHES DRYERS,* 1958-1962

	Original Installations	Replace Gas & Competitive	Total
Potential Attainable Market			
1958	565,000	55,000	620,000
1959	635,000	90,000	725,000
1960	690,000	135,000	825,000
1961	775,000	195,000	970,000
1962	805,000	275,000	1,080,000
Five Years	3,470,000	750,000	4,220,000
Forecast Sales			
1958	525,000	50,000	575,000
1959	575,000	80,000	655,000
1960	600,000	110,000	710,000
1961	630,000	155,000	785,000
1962	615,000	215,000	830,000
Five Years	2,945,000	610,000	3,555,000
Past Years' Sales			
1957 (estimated)			445,000
1956			434,400
1955			369,000
1954			243,200
1953			168,200
Five Years			1,659,800

* Data include combination washer-dryers with gas-fired drying units.

a substantial market still exists among homes utilizing coal, oil and other fuels for water heating, and many of these will undoubtedly convert to gas water heating when they replace existing equipment.

There are many homes, primarily in rural areas, where no hot water is available. Although the number is declining rapidly, the proportion of such homes for which gas water heaters are chosen, as opposed to other types of fuels, is steadily increasing. The market potential for such installations for five years is 1.61 million units. The five-year potential market in new housing is 4.26 million units, with 0.78 million being applicable to 1958. This year, 1.89 million additional units represent the potential market for replacement of existing gas water heaters, and 185 thousand units could be sold to replace competitive equipment. The total potential market this year is 3.19 million gas water heaters compared with actual 1957 sales of 2.558 million.

The market potential through 1962 for gas heating equipment of all types is 21.44 million units. Of these, 5.45 million represent gas central heating equipment, 13.04 million are gas space heaters, and 2.95 million represent floor and wall furnaces. A 1958 potential market exists for the sale of 3.38 million gas units in all three categories.

In comparison, it is anticipated that, under current trends, sales during the five years will aggregate 17.06 million units and, during 1958, 2.85 million units. The differential between forecast sales and potential market, for the country as a whole, reflects three factors: Gas is already so widely accepted in new housing (with 72 per cent of all new homes constructed in the first quarter of 1956 utilizing gas heating according to the most recent government information) that further improvement must necessarily be slow; to a considerable extent replacement of existing gas heating equipment is occasioned by age and consequent inadequate performance, rather than by styling, new features, or social desirability, and decisions regarding fuel usage are influenced greatly by cost comparisons, which change slowly.

The replacement market for central heating equipment is further limited because the gas units whose age will require them to be replaced during the next five years are primarily those purchased in the early part of the last decade, during which production was at low war-time levels. The same limiting factor is not present for space heaters and floor and wall furnaces, where the average age at time of replacement is substantially lower, and replacements of units sold in post-war years will be substantial.

An additional factor which will contribute to improved potential markets for central heating equipment is the increasing tendency to install such equipment (rather than space heaters or floor and wall furnaces) in homes in Southern climates. This affects not only new housing, but also conversions of existing heating systems, from individual or multiple room heating to central house heating.

Although in many sections it seems likely that increased promotion efforts would have only minimum effects upon sales, there are other regions, particularly where natural gas has been introduced in recent years and is not significantly less expensive than other fuels, where promotion efforts can be most productive in creating additional sales.

Furthermore, a major market potential exists in all areas for the installation of additional floor and wall furnaces and room heaters in those homes currently using such equipment, which are inadequately heated for desirable comfort levels. During the five-year period it is estimated that the potential market at-

POTENTIAL ATTAINABLE MARKET FOR GAS RANGES, 1958-1962

	New Housing	Replace Gas	Replace Competitive	Total	Free-Standing	Built-in
Potential Attainable Market						
1958	615,000	1,470,000	260,000	2,345,000	2,065,000	280,000
1959	645,000	1,530,000	252,000	2,427,000	2,057,000	370,000
1960	678,000	1,675,000	255,000	2,608,000	2,133,000	475,000
1961	711,000	2,048,000	247,000	3,006,000	2,446,000	560,000
1962	746,000	2,497,000	246,000	3,489,000	2,829,000	660,000
Five Years	3,395,000	9,220,000	1,260,000	13,875,000	11,530,000	2,345,000
Forecast Sales						
1958	595,000	975,000	230,000	1,800,000	1,550,000	250,000
1959	608,000	851,000	218,000	1,677,000	1,362,000	315,000
1960	623,000	770,000	205,000	1,598,000	1,208,000	390,000
1961	637,000	1,056,000	192,000	1,885,000	1,430,000	455,000
1962	652,000	1,463,000	180,000	2,295,000	1,765,000	530,000
Five Years	3,115,000	5,115,000	1,025,000	9,255,000	7,315,000	1,940,000
Past Years' Sales						
1957 (preliminary)				1,970,900	1,775,700	195,200
1956				2,176,200	2,012,100	164,100
1955				2,334,800	2,234,800	100,000
1954 (built-in sales estimated)				2,071,500	2,021,500	50,000
1953				2,176,500	2,176,500	—
Five Years				10,729,900	10,220,600	509,300

POTENTIAL ATTAINABLE MARKET FOR AUTOMATIC GAS WATER HEATERS, 1958-1962

	New Homes	Replace Gas	Replace Competitive	Existing Homes	Total
Potential Attainable Market					
1958	780,000	1,885,000	185,000	340,000	3,190,000
1959	815,000	2,020,000	155,000	330,000	3,320,000
1960	850,000	2,205,000	165,000	320,000	3,540,000
1961	885,000	2,295,000	190,000	315,000	3,685,000
1962	925,000	2,480,000	210,000	305,000	3,920,000
Five Years	4,255,000	10,885,000	905,000	1,610,000	17,655,000
Forecast Sales					
1958	760,000	1,665,000	150,000	295,000	2,870,000
1959	780,000	1,760,000	105,000	285,000	2,930,000
1960	805,000	1,895,000	105,000	275,000	3,080,000
1961	825,000	1,945,000	110,000	265,000	3,145,000
1962	850,000	2,070,000	120,000	255,000	3,295,000
Five Years	4,020,000	9,335,000	590,000	1,375,000	15,320,000
Past Years' Sales					
1957 (preliminary)					2,544,500
1956					2,762,100
1955					2,748,200
1954					2,360,500
1953					2,182,700
Five Years					12,598,000

tributable to such "up-grading" aggregates 1.21 million units compared to an estimated 0.51 million which would be sold for this purpose under present levels of sales efforts.

A favorable market factor for space heaters and floor and wall furnaces is the increasing tendency of builders to construct homes with larger floor area to accommodate today's increasing family size. Such dwellings will require a larger number of individual heating units per home, than the smaller homes of past years.

Central heating equipment's five-year market potential is 5.45 million units, while the 1958 potential is 1.07 million. These compare with anticipated sales, assuming continuation of present acceptance of gas central heating, of 4.88 million and 0.98 million. Sales in 1957 were estimated at 992 thousand units. Of the total five-year potential, 53 per cent represents installations in new homes, 16 per cent reflects replacements of gas equipment, and 31 per cent is attributable to replacements of competitive equipment.

A total of 2.95 million floor and wall furnaces can be sold through 1962 under optimum conditions of promotion effort, and 0.47 million represent the potential for 1958 alone. Present efforts would yield sales of 2.61 million between 1958 and 1962, and 1958 sales of 0.42 million. Sales during 1957 were 407 thousand.

The new housing market represents 31 per cent of the total five-year potential, 47 per cent reflects replacement of gas equipment, 14 per cent represents replacement of competitive equipment, and 8 per cent is attributable to installation of additional units in homes already heated by gas.

A potential market through 1962 exists for the sale of 13.04 million gas space heaters, with 1.85 million attributable to 1958. Continuation of sales efforts at recent levels would yield sales of 9.58 million units during the five-year period and 1.45 million during 1958. For comparative purposes, 1957 sales of gas space heaters aggregated 1.37 million. Of the total five-year potential, 9 per cent are installations in new homes, 63 per cent are replacements of gas units, 21 per cent reflects replacements of competitive equipment, and 7 per cent represents additional installations in existing gas-heated dwellings.

The five-year potential attainable market for gas dryers is 3.70 million units, with 0.58 million for 1958 alone. If no improvements are undertaken, five-year sales should be 3.13 million units, while 1958 sales would reach 0.54 million.

Although sales to families not currently owning dryers continues to represent the bulk of the potential market, replacements will become significant by the end of 1962, representing 29 per cent at that time. A. G. A. estimates that, by the end of 1962, 28.5 per cent of all dwelling units will have either gas or electric dryers installed, compared to 15.1 per cent at the end of 1957.

Projected sales for the five-year period are more than double the 1953-57 figure, while the potential market for the next five years is more than two and one-half times as great as sales during the most recent five-year period.

A. G. A. is anticipating substantial improvement in future sales and potential market for smokeless-odorless gas-fired incinerators. It is estimated that, between 1958 and 1962, a potential market for 550 thousand incinerators exists under optimum conditions of promotion effort and product improvement. In 1958, the market potential will aggregate 65 thousand incinerators. Without any significant improvement in promotion effort, sales during the five years will be 370 thousand, and 1958 sales will total 50 thousand units, compared to 1957 sales of 49 thousand.

POTENTIAL ATTAINABLE MARKET FOR GAS CENTRAL HEATING, 1958-1962

	New Housing	Replace Gas	Replace Competitive	Total
Potential Attainable Market				
1958	535,000	180,000	350,000	1,065,000
1959	555,000	160,000	340,000	1,055,000
1960	575,000	165,000	330,000	1,070,000
1961	595,000	185,000	320,000	1,100,000
1962	620,000	205,000	335,000	1,160,000
Five Years	2,880,000	895,000	1,675,000	5,450,000
Forecast Sales				
1958	525,000	150,000	305,000	980,000
1959	540,000	145,000	285,000	970,000
1960	555,000	140,000	255,000	950,000
1961	570,000	140,000	250,000	960,000
1962	590,000	160,000	265,000	1,015,000
Five Years	2,780,000	735,000	1,360,000	4,875,000
Past Years' Sales				
1957 (preliminary)				968,700
1956 (revised)				1,095,800
1955				1,173,600
1954				982,600
1953				788,700
Five Years				5,009,400

POTENTIAL ATTAINABLE MARKET FOR GAS-FIRED FLOOR AND WALL FURNACES, 1958-1962

	New Housing	Replace Gas	Replace Competitive	Upgrading	Total
Potential Attainable Market					
1958	165,000	175,000	85,000	40,000	465,000
1959	170,000	210,000	85,000	45,000	510,000
1960	180,000	280,000	85,000	45,000	590,000
1961	190,000	350,000	80,000	50,000	670,000
1962	195,000	385,000	75,000	55,000	710,000
Five Years	900,000	1,400,000	410,000	235,000	2,945,000
Forecast Sales					
1958	155,000	170,000	80,000	15,000	420,000
1959	165,000	205,000	65,000	15,000	450,000
1960	170,000	275,000	60,000	15,000	520,000
1961	175,000	340,000	55,000	15,000	585,000
1962	180,000	380,000	50,000	20,000	630,000
Five Years	845,000	1,370,000	310,000	80,000	2,605,000
Past Years' Sales					
1957 (estimated)					414,300
1956					447,200
1955					554,800
1954					520,100
1953					500,600
Five Years					2,437,000

Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

Edited by W. T. Simmons
Assistant to the Personnel Manager
Philadelphia Electric Company

● **Creative thinking—Do-it-yourself style**—D. Gordon Graham, in *Tide* of Nov. 22, indicates that we know a lot more than we think we do. Buried beneath our top layer of everyday knowledge is a deep stratum of information and experience we have collected in a lifetime. But the subconscious is timid—it does not normally emerge in crowded rooms or noisy offices. It can cooperate only when the mind is alone, with its shoes off and its belt loosened.

This sort of do-it-yourself brainstorming recognizes the fact that inspiration and imagination flourish best in solitude. You have to arrange this solitude for yourself, then learn how to use it. Here are three pointers that may be helpful:

1. The best time for solitary creative thinking is the hour before the family gets up, when the mind is rested and clear. 2. Do not be disappointed if the ideas do not flow freely at first. The mind is not predictable, but it does soon respond to routine, tranquility, and opportunity. 3. Do not force yourself. On those mornings when your mind seems to be still asleep, read something good. It may spark a productive train of thought.

● **Social security disability "freeze"**—Amendments recently enacted extend the deadline to June 30, 1958 for persons severely disabled before Jan. 1, 1955 to file an application for a "freeze" to protect their social security benefit rights. The amendments also provide that veterans with service-connected disability may receive a full disability benefit under social security along with their disability compensation from the Veterans Administration.

Until the recent change in the law, a disabled person who failed to make his claim before the end of June 1957, and who had become disabled before Jan. 1, 1955, would have lost his right to have his social security record "frozen." Also he could have lost future rights to any social security benefits for himself or his family.

● **Informal opinions of wage-hour personnel**—Employers confronted with perplexing problems concerning the everyday application of the Wage-Hour Law often turn to the nearest regional or field office of the Wage-Hour Division for help. If they receive an oral opinion and fail to follow it up by receiving a written ruling from a duly authorized person, they may find that reliance on the oral opinion will not be considered a defense to an employee's suit to recover unpaid wages and overtime.

● **Wage-hour division amends rule to clarify status of extra pay**—The Wage-Hour Division's rules for figuring an employee's "regular rate" of pay for purposes of computing his overtime compensation under the Wage-Hour Act are amended to clarify the status of extra payments given employees in situations similar to "call-backs."

The amendments affecting Secs. 778.5(c) and 778.7(e) of the Overtime Pay Bulletin issued in February 1950 make clear that where such payments are made "on infrequent and sporadic occasions," the extra pay (1) may be excluded from regular rate computations but (2) may not be credited toward any overtime pay due the employee. The specific situations covered by the amendments are:

1. Where extra payments are made to employees for failure to give the employee sufficient notice to report for work on regular days of rest or during hours outside of his regular work schedule; and

2. Where extra payments are made solely because the employee has been called back to work before the expiration of a specified number of "rest-period" hours.

● **Members' grievances against their union**—"In a single year one powerful union reportedly disciplined over 4,000 members, levying fines on them that totaled nearly $300,000 and imposing suspensions that added up to the neat figure of 150,000 years. One unpopular fellow was told that he would not be expelled from the union. That would be too harsh a penalty for his having been bold enough to buck the boss. Instead, he was given a lighter sentence: suspension from the union for 99 years." This tale was told by Prof. Walter Gellhorn of Columbia University Law School at the Sidney Hillman Foundation award luncheon several months ago. He went on to say that with penalties as stiff as these, it takes a mighty brave member to speak his piece. As a result only a few do. So corruption creeps in.

What's the answer? Review union discipline! This is being done, Prof. Gellhorn pointed out, by the upholsterers' and auto workers' unions. These unions have set up a final appeals board "of distinguished private citizens to decide whether a member has been unjustly disciplined by the union."

"This," stated the professor, "is good but not good enough. A distant body of luminaries—bishops and university presidents and the like—may be comforting as a symbol; but it remains a distant body. By the time a disappointed suitor reaches that august tribunal, if he ever does, too much damage will already have been done. Not very many wage earners will be emboldened to speak out against abuses under this procedure."

Prof. Gellhorn's suggestion: Have unions jointly set up a grievance procedure on a coast-to-coast basis whereby aggrieved union members can have their cases heard by the same type of arbitrator handling labor-management disputes.

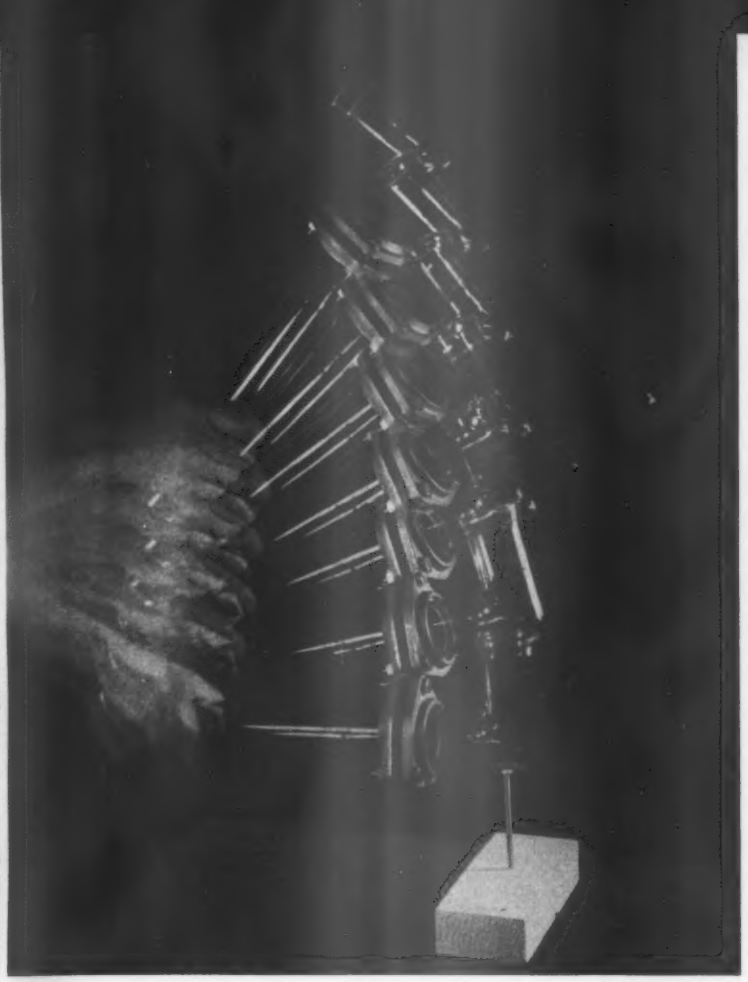
● **Have you these keys to executive success?**—Lloyd M. Powell, in the December issue of *Office Executive* reminds us that executives are not "born." They are not "made" either. Most of them are self-made. Answering these ten questions truthfully can help you test how well you are developing your own executive potential:

1. Do you really know your job and why it is important? 2. Do you look for better methods to save money, produce a better product, and speed production? 3. Do you seek out responsibility whether pleasant or not? 4. Are you willing to put in that extra lick and look for something more to do when your immediate assignment is fulfilled? 5. Are you willing to learn? 6. Are you a salesman in the sense of being optimistic and "talking up" the company? 7. Does the clock "sneak up" on you because you are interested and absorbed in your work? 8. Do you accept criticism graciously? 9. Are you ready to compete, even against goals you set for yourself? 10. Do you share your knowledge by teaching others?

● **Court decision—Employer communications with strikers**—An employer may not feel like being too particular in his choice of words to employees who have just gone out on strike; however, a certain amount of diplomacy is called for when his message concerns matters covered by the Taft-Hartley Act. This is particularly true in announcing replacement or reinstatement policies to economic strikers. A comparison of a recent decision should help employers to avoid some of the pitfalls in communications of this type.

In one case an employer sent a letter to economic strikers notifying them that they had been replaced by temporary employees and stating that if the strikers did not return to work by a certain date they would be permanently replaced. Both the NLRB and the Court of Appeals held that this letter did not violate the Act. It merely stated the employer's legal position, i.e., that he was entitled to make replacements to take over the positions of the strikers. The board also noted that the employer sent a copy of the letter to the union and thus avoided raising an inference that the letter was designed to undermine the union or to demonstrate a desire to bargain with the strikers as individuals.

(Continued on page 46)



Scientifically heated and chilled, this strong tempered glass can drive nail through hard wood block

The weird things they do with heat

By RICHARD F. DEMPEWOLFF

Eastern Editor
Popular Mechanics Magazine

Fred Hess runs a bake shop in suburban Dresher outside Philadelphia. Like any other baker, his primary tools are ovens and heat, but that's where the comparison ends. His ovens vary in size from ceramic bowls no bigger than teacups to vast firebricked tunnels totaling a mile in length. They measure their fierce, gas-fired flames in thousands, not hundreds of degrees.

Inside a chain of sprawling new million-dollar buildings that resemble a modern university, his "chefs," dressed in everything from dungarees to asbestos-lined aluminum suits, are silhouetted by the white incadescence of the infernos they create, as they ply their specialty of using heat as a tool for solving people's problems.

If, for instance, you want to peel a carload of onions without shedding a tear, put 30 million holes in a square inch of material, take the fuzz off a mile of fabric, remove the bristles from 100,000 hogs without searing their skin, bend glass around a sharp corner, or dry printer's ink faster than the flick of an eyelash—Fred Hess's "kitchen help" will show you how to "cook" your way out of your dilemma.

The Selas Corp. of America, of which Frederic O. Hess is president, began as a gaslight-equipment company in Germany in 1901. Today, it is a specialist in heat engineering—a master chef to modern industry. Its job is to use controlled heat as a tool in producing things that would be impossibly expensive by other means—or just plain impossible.

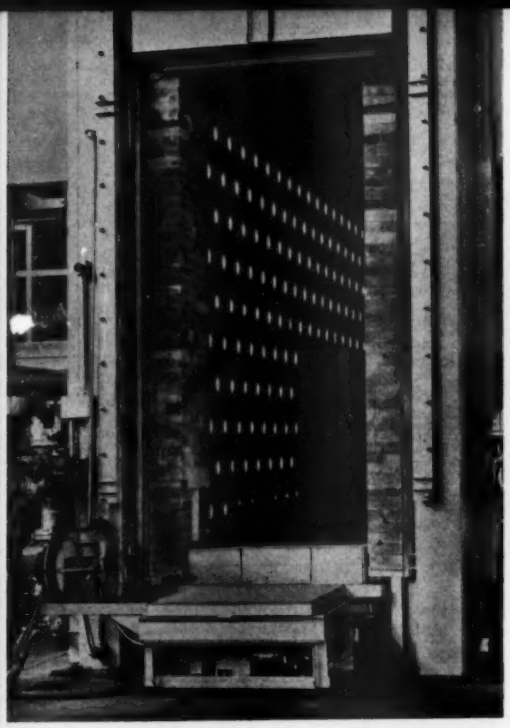
Heat, Mr. Hess will tell you as you stroll past long rows of roaring kilns and ovens, is the processing tool that is developing the new materials for tomorrow's satellites, space rockets and electronic gear. Blades in a modern jet turbine reach about 1650 degrees F., and present alloys with nickel, iron or cobalt bases can go to 1800 degrees F.

But already engineers are designing engines that will have to stand much greater temperatures. So the heat wizards are working on new alloys of molybdenum and chromium they hope will not melt or lose strength at the super heats they'll encounter. Radomes that house delicate steering mechanisms on our new supersonic missiles will melt under friction with the atmosphere unless our industrial "cooks" come up with a material for them which is better than we have today.

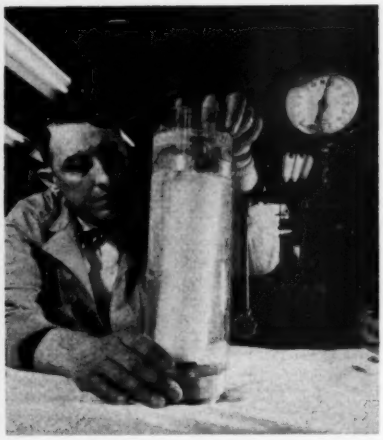
But they will.

They're hot on the trail of a ceramic-alumina—which will not melt until it reaches a toasty 3720 degrees F. The heat experts are also working toward new ceramics for TV vacuum tubes, which must stand higher and higher temperatures as power output goes up. Nuclear physicists are crying for special materials to withstand not only the

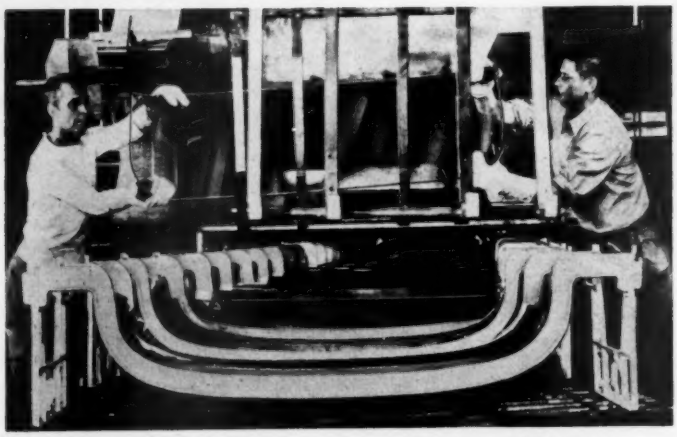
(This article in the February, 1958 issue of "Popular Mechanics Magazine" has created considerable comment by many persons, both within the gas and other industries. Permission to reprint the article in the A. G. A. Monthly was granted by the editors of "Popular Mechanics.")



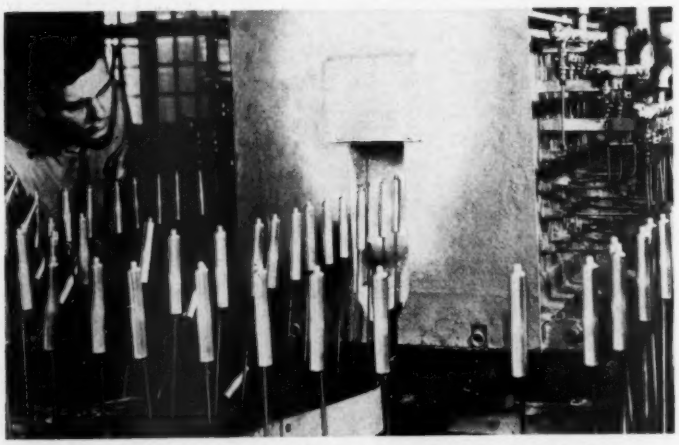
Inside the furnace where die blocks are cooked, radiant burners appear as neatly arranged blinding white disks



The ceramic filter has 100 billion pores too fine for bacteria to pass through. Fabrication possible by heat



Wrap-around windshields and rear windows for cars are molded by heat softened glass that drops into forms. Heat experts make this possible



Above, a Selas Corp. of America "chef" makes annealed aluminum tubes for toothpaste by heat-treating methods that eliminate brittleness

intense heat of atomic piles but also to hold up against radiation and corrosion.

Selas' big secret is heat precision. For while the chefs in those roaring kitchens may cook with 5000 degrees F., the recipes they use may be done to the proper turn within a particle of a second. A little more might set everything afire; less might not do the job.

Take the pigs, for instance. Some time ago a meat packer came to Mr. Hess with a problem. Hair on the hog carcasses couldn't be entirely removed without a time-consuming searing job being performed on each individual pig. And the incidence of scorched flesh was pretty high. Selas built the packer a radiant-gas oven through which the carcasses move on a mass-production trolley line. Radiant burners inside are positioned so that they outline the contours of a typical hog carcass; hence all parts of the beast are the same distance from the flames.

"Each carcass," says Mr. Hess, "is exposed to a blast of 3400 degrees for a fraction of a second. A switch, activated by the leg of the hog going through, lights and extinguishes the burners. It burns off every hair—without raising the temperature of the skin a single degree!

Later, a similar oven was devised for a large canner, to burn the pinfeathers from chickens. The same canner had the onion-peeling problem. Peeling onions mechanically in abrasion machines is messy, time-consuming and causes tearing in the crews that have to clean the machines. By subjecting the ornery vegetables to open gas flames in a kiln, Selas was able to sear off the hard outer layers without scorching those beneath. Today one oven is peeling onions at a rate of two tons per hour, and nobody has to sweep up any crumbs.

Typical of the touchy heat jobs Mr. Hess' experts have put their talents to was the business of defuzzing fabrics. Most newly loomed cloth has a surface of fuzz and may be covered with bits of thread and "fly" that must be all removed before the material is sold. Mechanical means of doing the job were tedious and costly, so the textile people came to Mr. Hess.

Could he do anything about it?

Selas' kitchen help went to work on a row of gas burners under which the loomed fabric would pass on its regular rounds to the rollers. After days of research, the cloth—corduroy—was flash-

heated at 1800 degrees for exactly seven seconds. Six wouldn't do it, and eight would scorch it or set it afire. So close were tolerances for this burner, that when black cloth, which absorbs more heat, is passed over burners set for white material, it burns to a crisp.

Today, however, these burners are singeing fuzz from fabric in most of the nation's mills faster than any previous method. The flames burn so hotly that not a speck of carbon is left. Yet the cloth itself isn't scorched.

If that sounds like hot precision, Mr. Hess can show you even more startling examples. In a vertical furnace, for instance, two huge webs of Kraft paper zip at high speed through a radiant inferno. The intense heat laminates the paper in a continuous operation without searing a fiber.

The same general technique, applied to printing presses, makes it possible for you to get your modern news magazines on time. Before the heat engineers went to work, quality printing on a large-circulation magazine was considered impossible due to the drying time required by inks used on glossy paper.

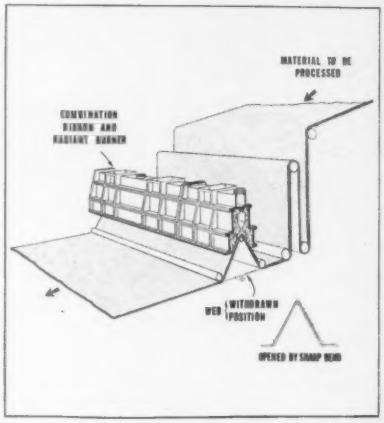
Working with ink-makers and press builders, Mr. Hess' men developed gas-fired drying burners that throw more than 2000 degrees of heat at a printed paper web as it flies through the rotary press. Despite the intense heat, the speed of the paper is such that although the ink becomes bone-dry on its flight past the flames, the paper is unaffected. Instead of tediously producing 250 smudgy black-and-white 16-page sections per minute, as they once did, today's rotary presses can turn out 1500 in four or five colors!

This kind of precision cooking is due largely to recent developments in radiant, or reflected, heat. Thousands of degrees can be directed on something instantly at full temperature and just as suddenly cut to nothing. Reason: When the flame is killed, there's no heat for the reflector to collect and reflect.

"It's interesting," points out Carl Mann, Selas' drying division manager, "that this form of energy, probably the first used by primitive man, should have been the latest to give up its secrets to man's research. Primitive man, of course, knew only that when morning came he could crawl out of a damp cave and warm himself in the welcome rays of the

(Continued on page 37)

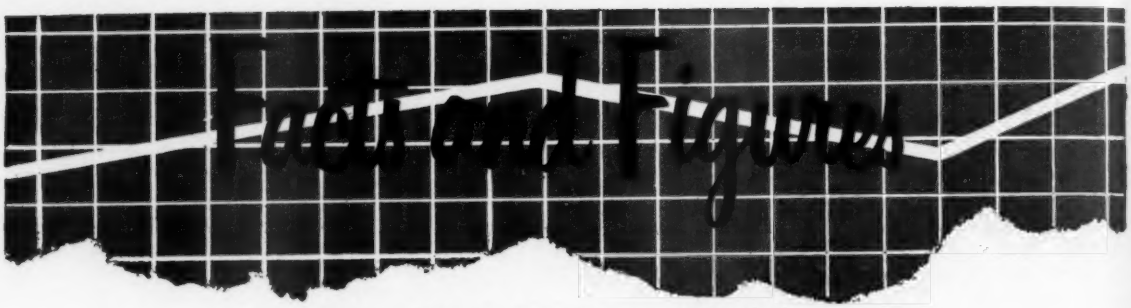
Hot exhaust gases waft away threads of glass fiber to be gathered as glass wool for draperies, insulation



Above, fuzz is singed from corduroy fabric by automatically drawing it through burners at the present heat

Above, radiant-heat burners that are the size of teacups focus furnace heat in order to harden "selectively" the teeth of this tractor gear

Modern heating methods employed by Selas Corp. of America now harden steel-die blocks for presses in three hours instead of usual 30 hours



Prepared by A. G. A. Bureau of Statistics

SALES OF GAS AND ELECTRIC RESIDENTIAL APPLIANCES DURING FEBRUARY 1958

(WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	February		January		Total 1957	
	Units	Per Cent Change	Units	Per Cent Change	Units	Per Cent Change
RANGES (including built-ins)						
Gas	137,400	−15.0	129,900	−13.2	1,968,600	− 9.5
Electric	n.a.	n.a.	109,700	−24.1	1,365,000	−13.9
WATER HEATERS						
Gas	211,500	+ 1.6	237,100	+10.3	2,532,000	− 8.3
Electric	n.a.	n.a.	61,700	+ 9.6	800,000	− 8.0
GAS HEATING—Total	54,700	+ 2.4	61,300	+ 1.8	965,600	−11.9
Furnaces	42,800	+ 2.6	48,800	+ 2.3	702,600	−13.5
Boilers	5,200	0.0	5,200	0.0	99,500	+ 3.3
Conversion Burners	6,700	+ 3.1	7,300	0.0	163,500	−12.5
OIL FIRED BURNER						
Installations	32,996	−16.7	42,742	− 7.8	618,589	−12.8
DRYERS						
Gas	n.a.	n.a.	30,240	−17.5	392,090	n.a.
Electric	n.a.	n.a.	68,390	−36.7	868,560	n.a.

GAS SALES TO ULTIMATE CONSUMERS BY UTILITIES AND PIPELINES DURING JANUARY

(MILLIONS OF THERMS)

	1958	1957	Per Cent Change
Month of January			
All types of Gas	8,798.8	8,338.6	+ 5.5
Natural Gas	8,483.3	8,049.6	+ 5.4
Other Gases	315.5	289.0	+ 9.2
Twelve Months Ending January 31			
All types of Gas	76,606.4	73,153.0	+ 4.7
Natural Gas	74,333.9	70,268.1	+ 5.8
Other Gases	2,272.5	2,884.9	−21.2
January Index of Monthly Utility Gas Sales (1947-49 = 100)	251.4	238.2	+ 5.5

PERTINENT BUSINESS INDICATORS, JANUARY

(WITH PER CENT CHANGES FROM CORRESPONDING PERIOD OF THE PRIOR YEAR)

	January			December		
	1958	1957	Per Cent Change	1957	1956	Per Cent Change
Industrial activity (1947-49 = 100)	133	146	−8.9	136	147	−7.5
Consumer prices (1947-49 = 100)	122.3	118.2	+3.5	121.6	118.0	+3.1
Housing starts, Non-farm (thousands)	69.0	63.0	+9.5	62.0	63.6	−2.5
New private constr. expenditures ($ million)	2,361	2,324	+1.6	2,705	2,654	+1.9
Construction costs (1947-49 = 100)	164.2	156.7	+4.8	164.1	156.3	+5.0

Gas utility and pipeline construction expenditures during the fourth quarter of 1957 totaled $559 million. Although down 3.1 per cent from the preceding quarter, it nevertheless represented an increase of 18.2 per cent over the fourth quarter 1956 expenditures. Total construction expenditures during 1957 aggregated $2,010 million.

Preliminary first and second quarter 1958 expenditures are budgeted in the amounts of $397 million and $549 million respectively. This is an increase over the corresponding comparable quarters of 1957 of 12.1 per cent and 5.6 per cent respectively.

Total operating revenues of gas utilities and pipelines from the sales of gas to ultimate consumers and sales for resale reached a new all time peak of $6,372 million for the calendar year 1957, up 9.0 per cent over 1956. Total operating expenses, however, increased at a somewhat higher rate, 11.6 per cent. Since operating expenses represent nearly two-thirds of total operating revenues they greatly affect the amount that is finally brought down to net income. Net income of the industry totaled $658 million, representing a gain of 6.3 per cent over 1956.

Total sales of the gas utility and pipeline industry to ultimate consumers during January 1958 amounted to 8,799 million therms, up 5.5 per cent over sales of 8,339 million therms in January 1957.

Industrial gas sales during January aggregated 3,243 million therms, an increase of 3.6 per cent. This increase in gas sales to industrial users occurred despite the fact that industrial production for January 1958, as measured by the Federal Reserve Board index, was down 8.9 per cent from January 1957. The Federal Reserve Board index was 133 (1947-1949 = 100), 13 points lower than the index of 146 for January

1957. The Association's January index of gas utility and pipeline sales is 251.4 (1947-1949 = 100).

Housing starts of 69,000 units which in January 1958 was 9.5 per cent higher than January 1957 starts, slipped in February to a total of 65,000 starts, down 1.2 per cent from February 1957. The Labor Department announced that the annual rate of private home starts in February was the lowest pace since early 1949.

The trend in gas appliance shipments during January and February appears to be mixed. Water heaters and heating equipment shipments posted gains over the comparable months a year ago while gas range and dryer shipments reflected declines when compared to the same months a year ago.

Appliance data relate to manufacturers' shipments by the entire industry compiled by the Gas Appliance Manufacturers Association. Industry-wide electric appliance statistics are based on data compiled by the National Electrical Manufacturers Association and are reprinted by GAMA in its releases. Data relating to oil-fired burner installations are compiled by *Fuel Oil and Oil Heat*. Data on both gas and electric dryer shipments are released regularly by the American Home Laundry Manufacturers Association.

GAS INDUSTRY INCOME STATEMENT

(MILLIONS OF DOLLARS)

(REFERS TO ALL DISTRIBUTING UTILITIES AND PIPELINE COMPANIES)

	TOTAL INDUSTRY Twelve Months Ending Dec. 31			NATURAL GAS Twelve Months Ending Dec. 31		
	1957	1956	Per Cent Change	1957	1956	Per Cent Change
Total operating revenues	$6,372	$5,847	+ 9.0	$5,971	$5,408	+10.4
Operating expenses—operations	4,132	3,698	+11.7	3,871	3,420	+13.2
Operating expenses—maintenance	222	204	+ 8.8	208	189	+10.1
Operating expenses—total	4,354	3,902	+11.6	4,079	3,609	+11.3
Depreciation, retirements, depletion, amortization, etc.	433	395	+ 9.6	404	365	+10.7
Federal income taxes	424	484	—12.4	406	448	— 9.4
All other taxes	325	279	+16.5	299	258	+15.9
Total taxes	749	763	— 1.8	705	706	— 0.1
Total operating revenue deductions	5,536	5,060	+ 9.4	5,188	4,680	+10.9
Net operating revenues	836	787	+ 6.2	783	728	+ 7.6
Other income	85	59	+44.1	84	54	+55.6
Gross income	921	846	+ 8.9	867	782	+10.9
Interest on long-term debt	263	220	+19.5	246	203	+21.2
Other income deductions	(a)	7	—	(b)	7	—
Total income deductions	263	227	+15.9	246	210	+17.1
Net income	658	619	+ 6.3	621	572	+ 8.6

(a) Credit item less than $500,000.
(b) Debit item less than $500,000.

Sample indicates improvement in employee safety during '57

FOURTH QUARTER data on accident experience, submitted by a sample group of 26 gas utility and pipeline companies, are now available. This composite group of companies representing 24 per cent of the industry's employees was selected to provide the basis for a quarterly sampling program, in an attempt to determine the employee accident trend of the industry.

Taking a panoramic view of the entire four quarters, one finds these encouraging factors: An average 50,334 gas employees worked an aggregate 99,285,780 hours in 1957 without incurring any fatalities; and only one totally disabling injury was reported for the year by this same group of companies.

Average frequency rate for the combined four quarters was 7.13 and a severity rate of 132 days per million man-hours worked was charged to disabling injuries.

The survey shows a fourth quarter frequency rate of 6.91, slightly higher than the third quarter 6.11, and contrasting sharply with the 8.07 and 7.46 reported in the first and second quarters respectively. However, all data computed in this sampling should be considered as preliminary figures and as such may vary from the comprehensive accident statistics of the industry to be released in May.

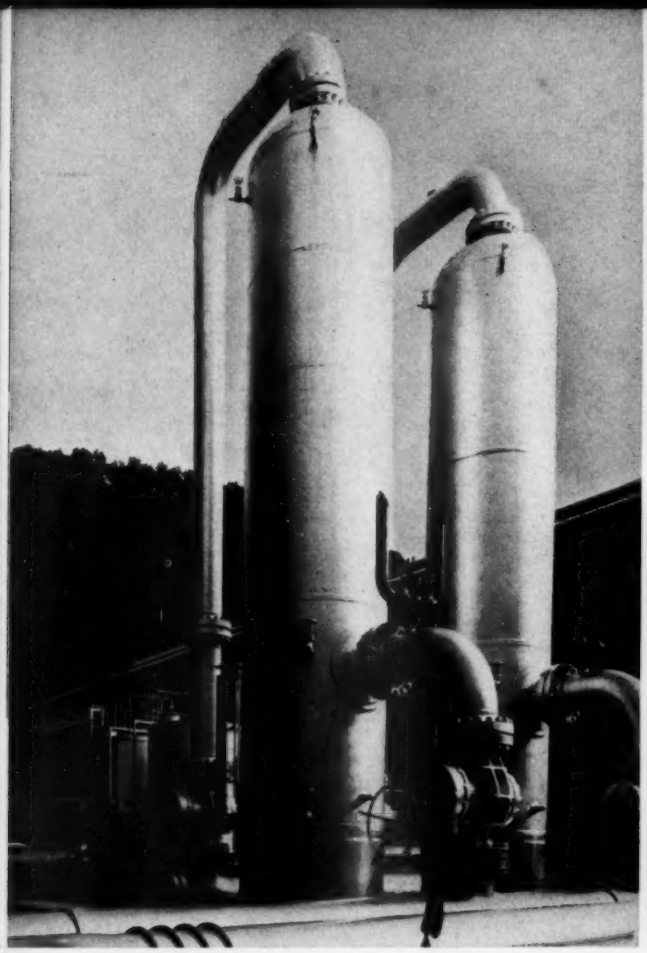
For the fourth quarter, company records disclose a severity rate of 140 days charged to disabling injuries per million man hours worked, as compared to 129 in the third quarter.

Seventeen companies in the sample group—maintaining 8,554 vehicles—filed traffic statistics indicating that 457 accidents involving eight personal injuries had occurred in the fourth quarter for a frequency rate of 1.71 per 100,000 miles traveled compared to 1.69 for the entire four quarters.

Next year quarterly reports will be gathered from a fully representative group of companies and should contribute materially to the success of the gas industry employee safety program.

PRELIMINARY EMPLOYEE ACCIDENT EXPERIENCE IN THE GAS INDUSTRY, 1957

		1957 (Sample Companies)				
	1956	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Four Quarters
Number of reporting companies	407	26	26	26	26	26
Average number of active employees	189,287	48,574	48,190	48,943	55,630	50,334
Number of injuries						
Fatality	23	0	0	0	0	0
Permanent total disability	3	0	0	0	1	1
Permanent partial disability	89	4	4	5	6	19
Temporary total disability	3,212	193	179	147	159	678
Total	3,327	197	183	152	166	698
Days charged						
Fatality	138,000	0	0	0	0	0
Permanent total disability	18,000	0	0	0	150	150
Permanent partial disability	43,073	440	710	674	651	2,475
Temporary total disability	50,820	2,617	2,538	2,532	2,770	10,457
Total	249,893	3,057	3,248	3,206	3,571	13,082
Frequency rate	8.68	8.07	7.46	6.11	6.91	7.13
Severity rate	652	125	132	129	140	132
Vehicle accident statistics						
Average number of employees	146,310	34,512	34,751	34,947	37,044	141,254
Number of vehicles	36,861	7,906	7,978	8,055	8,554	32,493
Vehicle miles traveled (000)	434,116	23,628	23,066	23,773	26,769	97,236
Number of reportable accidents	6,304	449	381	353	457	1,640
Number of personal injuries	141	13	9	9	8	39
Accidents per 100,000 miles traveled	1.45	1.90	1.65	1.48	1.71	1.69



These vertical scrubbers submit gas entering Sweeney station to an oil bath. Each has 130 MMcf capacity

In foreground are 20-inch suction and discharge lines of Sweeney station. All piping was prefabricated in Marietta, Ohio, by Dravo Corp.

Sweeney compressor station serves Hope Natural's Fink and Kennedy underground storage fields, boosting gas turnover by from one-third to one-half

New facility permits storage of some 87 billion cu. ft. of gas far underground during summer, with supply available as needed

Push-button compressor station ups gas flow

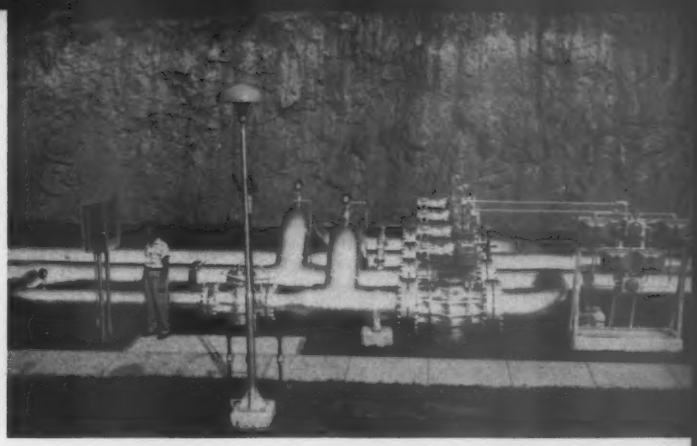
A new push-button controlled compressor station in West Virginia has increased the flow of gas from two underground storage fields of the Hope Natural Gas Co. by 10 billion cubic feet a year.

Gas piping prefabricated by Dravo Corp., Pittsburgh, and erected by Hope, at the new facility known as the Sweeney station, permits the storage of some 87 billion cubic feet of gas at elevated pressures far underground during warm weather. When thermostats in the thousands of homes and industries in the four-state area (Ohio, Pennsylvania, New York and West Virginia) serviced by Hope and its customer-companies call for heat in cold weather, this stored gas can be withdrawn as needed.

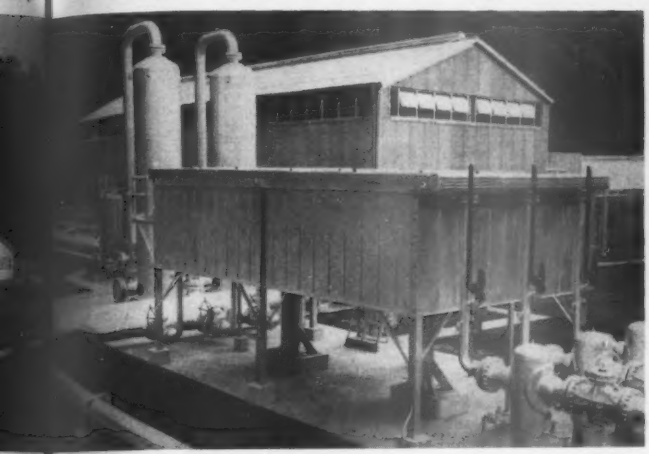
Serving Fink and Kennedy storage fields, which until now utilized only natural flow in either direction, the station boosts annual turnover in the fields from 33⅓ to 50 per cent.

Constructed as a world in itself with its own power, light and water facilities,

Sweeney station meter run facilities with horizontal gas cleaners are in background. Four 10-inch meter runs are at right center



Underground lines at Sweeney station terminate at this manifold, which was assembled on job site. In foreground is "panic station"



This close-up shows fin-fan cooler equipment with oil separators at right, vertical scrubbers and main compressor in background

A 55-ton compressor engine is inched along a widened portion of a rural region to its destination, Sweeney compressor station

the station is almost completely automatic. Push-button controls operate compressor engines and yard piping valves. An instantaneous blow-down safety system can be placed in operation from any one of four strategically-located "panic stations." In event of an emergency, the mere touch of a button at any of the stations will close valves on the incoming gas lines and will immediately purge the entire station system.

Located about 50 miles south of Clarksburg in a scenic and hilly section, problems of transportation and construction were many.

Transportation of ponderous plant equipment—compressor engines each weighing more than 55 tons, piping, other plant components, and construction machinery—posed road as well as job site problems. Weight and size of the movement necessitated the "beefing" of bridges, grading, widening and bulldozing of rutted roads for passage.

With the station designed for a maximum flow of 250 million cubic feet of gas per day at a peak pressure of 1,000 psi, tons of thick-walled seamless carbon-steel pipe, ranging in diameters from 6 inches to 20 inches, were fabricated for the job.

Weight of the pipe alone—an 8-foot section of the 20-inch pipe weighs about a ton, with each connecting flange about the same weight—made it extremely hazardous and impractical to fabricate in the field.

Instead, piping components were shipped to the job site as neeeded. This procedure according to Hope resulted in the entire piping installation "fitting like a glove" with only a few minor adjustments required.

Codes of the American Standards Association were followed in the Dravo welding and fabricating operations, with piping being preheated before welding. The two main 20-inch headers in the system with walls of .812-inch thickness are made of Schedule 60 pipe. Piping from the headers to the scrubbers as well as in the emergency relief blow-down system consists of 16-inch Schedule 60 pipe with walls .656-inch thick.

Four suction laterals to the compressors are 10-inch schedule 60 pipe with a wall thickness of .500-inch. Four discharge laterals from the compressors are made of 8-inch schedule 80 pipe with a wall thickness of .500-inch; and four bypass lines between the laterals are 6-inch Schedule 80 pipe with a .432-inch wall thickness.

Gas stored in the once-productive Fink and Kennedy storage fields is taken from two 20-inch transcontinental lines of the Tennessee Gas Transmission Corp. at Hope's Cornwell station, about 30 miles northeast of Charlestown, W. Va. Picked up from Cornwell at a pressure about 500 pounds per square inch, the gas pressure is increased to 1300 psi before it is directed into the company's high pressure lines to Tonkin station 74 miles to the north.

At Tonkin, gas pressure is increased to 1000 psi and transferred into an 18-inch line for a 19 mile flow to the

Sweeney storage installation. Before entering the compressor station, incoming gas passes through a metering station two miles from the major facilities. Here the gas goes through three horizontal dry-type cleaners for removal of condensate or lubricating oil which may have collected in pipeline travel. After cleaning, the gas passes through four 10-inch meter runs before discharge into a 20-inch line to the station.

As all gas, whether from transmission lines or field storage, must be purged of impurities before compression to prevent formation of line obstructions, two vertical oil "bath" scrubbers with mist extractors are installed on the suction line. Each has a capacity of 130 million cubic feet of gas per day at 500 psi. In front of the scrubbers, 10-inch laterals carry the cleaned gas from the suction line to four 1350 brake horsepower, 300 rpm, single stage, compressor engines.

Four compressor cylinders on each engine, each with a 12-inch diameter and a 14-inch piston stroke, increase gas pressure for storage in either of the two underground pools.

Each engine has its own jacket water cooling system with engine fly wheels serving as the drive for variable speed fans. Two small air compressors, one motor driven and the other equipped to operate on either electricity or gas, are used to provide compressed air with which to start the giant engines.

Eight-inch laterals take compressed gas from the engines to a 20-inch discharge line. The discharge line, in turn, distributes the flow through three dry-type after-coolers to reduce the gas temperature to 120 degrees F in summer and 90 degrees F in winter.

The temperature-controlled gas next is passed from the after-coolers to three separators which completely remove any microscopic oil particles which may have escaped earlier purging action. Both cooling and purifying are necessary to protect sand faces of the underground wells from moisture and oil sludge.

Leaving the separators, the gas is carried by 20-inch line to the fields for storage. Storage pressure for approximately 56 billion cubic feet of gas in the Fink field is estimated at 860 psi; while that in the Kennedy field for storage of 31 billion cubic feet is estimated at 900 psi. The Fink field of 130 wells, at average depths of 2300 feet under ground, covers almost 12,000 acres; while the Kennedy field, presently using 65 wells with another 15 in reserve, covers 6500 acres and at an average depth of 1800 feet.

When gas is withdrawn from the fields, it again passes through the station for scrubbing, cleaning, boosting to transmission line pressure and metering, after which it enters the line to Tonkin station. There the gas is fed into the company's high pressure transmission lines.

Meet your Association staff

James M. Beall

A vigorous drive for achievement—well modulated through gracious manners, soft speech, and conservative attire. This is James M. Beall, director of A. G. A.'s Public Information Bureau.

Some who know that Mr. Beall joined A. G. A. in 1929 claim that he has never worked elsewhere. That is not exactly true. He actually started working at the age of 10 as a newspaper delivery boy, and has been working ever since.

Although a special academic scholarship started him off at the University of California, he worked hard to pay his expenses—as a gas station attendant, janitor, waiter, bellhop, and anything else available.

Even then he had a strong interest in communications and public relations. Perhaps it was his deep interest in people. Perhaps it was this incident that occurred when he was 12: While digging in his back yard in northern California, he came upon a sack of hidden treasures—Chinese jewelry, even pieces of gold. Through poor communications, the San Francisco newspapers grossly misinterpreted the event. The result? A local gold rush.

On his first trip to New York, 28 years ago, he accepted a temporary job as editor of the A. G. A. Proceedings. The employment turned out to be not so temporary, as Mr. Beall rose to editor of the A. G. A. Monthly in 1934, manager of publications in 1948, and his present post in 1951. Under Mr. Beall's direction, the PAR Public Information Program has seen the number of gas utilities with organized PR programs more than double within the past three years.

"Our program's purpose is two-fold," Mr. Beall explains. "First, to help gas utilities train thousands of local public relations ambassadors, and second, to present the gas story via communications media to the national public."

Mr. Beall lives with his wife and four children in Scarsdale, N. Y., in a rambling home with an attic just large enough to hold his 70 or so sports trophies. He has won the trophies in tennis and badminton, which he has been playing since high school.

High school days were filled with sports, studies, awards, and part-time jobs. His high school yearbook editor in 1926 must have been aware of this. Or he must have been gazing into a crystal ball. For under the yearbook photo of 17-year-old Jim Beall stood these words:

"Everything he does, he does well. And he does everything."

Individual shareholders must pay federal income tax in dividends received at regular rates

Looking into tax-free dividends

By CLIFFORD H. DOMKE

Partner
McKone, Badgley, Domke & Kline
Jackson, Michigan

Under the federal income tax law an individual shareholder must pay a federal income tax on dividends received (except for the $50 exclusion and the 4 per cent dividends received credit) at regular individual income tax rates.

The Internal Revenue Code of 1954, as amended, defines a "dividend" to mean a distribution by a corporation to its shareholders out of "earnings and profits" of the taxable year, or out of "earnings and profits" accumulated after Feb. 28, 1913. The phrase "earnings and profits" as used herein is a statutory concept for federal income tax purposes, and, in most cases, will differ greatly from the earned surplus as shown on the company's books.

Tax-free dividends are those dividends paid by a corporation out of other than "earnings and profits" which are treated as a partial return of capital or are made from earnings or appreciation in value of property accrued before March 1, 1913. If the dividend is paid out of other than earnings and profits and is treated as a partial return of capital, the tax cost of the stock is reduced by the amount so treated, and if such amount exceeds the tax cost, such excess is not entirely free of tax but is treated as a capital gain.

If the stock has been held for more than six months, the 50 per cent deduction applies, or the alternative tax of 25 per cent effective rate applicable in the case of long-term capital gains may be used. Dividends paid from earnings or profits earned or increase in value of property accrued prior to March 1, 1913, are entirely exempt from federal income tax even if the dividend exceeds the tax cost of the stock. Accordingly, the term "tax-free dividends" is used loosely to include dividends exempt from tax and dividends that either reduce tax cost or are subject to tax at capital gains rates.

One publication lists the following public utilities, among other companies, currently paying dividends out of other than earnings and profits: California Oregon Power Co., California Water Service Co., Central Hudson Gas & Electric Corp., Central Louisiana Electric Corp., Central Public Utility Corp., Detroit Edison Co., El Paso Natural Gas Co., Electric Bond & Share Co., Florida Power Corp., General Public Service Corp., Hartford Electric Light Co., Oklahoma Gas & Electric Co., Pacific Power & Light Co., Rockland Light & Power Co., Southwestern Public Service Co., United Corp., Washington Water Power Co., and West Virginia Water Service Co.

May not be inclusive

This list may not be all inclusive. If your company is not included in the list, then the management of your company should know why not. Further, the management of your company should know from year to year the status of the company's accumulated earnings and profits. Security analysts know that many public utilities are paying dividends out of other than earnings and profits for federal income tax purposes and have requested information not only with respect to the company's current position but also with respect to the company's position five or ten years hence.

A determination of your company's accumulated earnings and profits for the purpose of computing the taxes payable on dividends received by shareholders is a must. If your shareholders are not properly advised they may be paying too much or too little in federal income taxes. Obviously, all shareholders are not treated alike under the federal income tax law. In the case of the small shareholder the $50 exclusion might relieve him of all tax and any amount received in reduction of tax cost might result in some tax if the stock is later sold at his original cost.

Corporations pay only an effective tax rate of 7.8 per cent on dividends received on stock in domestic corporations, but a 25 per cent tax on capital gains. Dividends received by life insurance companies are subject to very little tax and dividends received by qualified pension trusts are entirely exempt from tax. The benefit or detriment of having your company pay dividends out of other than earnings and profits, for federal income tax purposes, is that of the shareholder, not of the company. However, the company is in the position of having to put its shareholders on notice whenever some part of the dividends paid are subject to other than ordinary tax treatment in the hands of the share-

Condensation of a technical paper on "Some Problems Involved in the Computation of Earnings and Profits" presented before a joint meeting of the A. G. A.-EEI Taxation Accounting Committees at Atlanta, Ga., on Jan. 30, 1958.

holders.

Once the shareholder is on notice, it is up to the shareholder to resolve the extent to which dividends are made out of other than earnings and profits with the Internal Revenue Service. Any dealings which the company may have with the Internal Revenue Service in this regard are on behalf of the shareholder, unless, of course, the company is claiming some tax deduction of its own, such as, for example, a deduction for dividends paid on preferred stock.

A public utility should be careful in assuming the responsibility involved in advising its shareholders of the extent to which it is paying dividends out of other than earnings and profits for federal income tax purposes. The public utility should be well fortified in order to substantiate the conclusions reached with respect to its computation of accumulated earnings and profits and should word carefully any communications to its shareholders in this regard.

For federal income tax purposes, all dividends are treated as paid from the most recently accumulated earnings and profits. Accordingly, dividends are fully taxable to the extent of the current year's earnings and profits regardless of prior deficits. However, even though there is no immediate problem of advising shareholders with respect to the tax status of dividends paid so long as the current year's dividends do not exceed the current year's earnings and profits, the study of accumulated earnings and profits should be made now so that shareholders may be advised promptly when the necessity arises in the future.

If present practices continue with respect to amortization of emergency facilities, accelerated depreciation, excess of normal tax depreciation over book depreciation, and other differences between book and tax net income which reduce tax net income more than book net income, the problem will certainly present itself in the future if it is not present today.

There are numerous reasons why some public utilities have been paying dividends to shareholders out of other than earnings and profits. Many items are treated differently for federal income tax purposes than for book purposes. The biggest differences involve amortization and depreciation. For example, the amortization of emergency facilities, a fast write-off over a 60-month period for federal income tax purposes, with normal depreciation used per books results in tax earnings and profits below book net income, even though such difference is normalized by the use of deferred tax accounting per books.

A similar situation exists with respect to those public utilities which have elected to use one of the accelerated depreciation methods permitted by the 1954 Code for federal income tax purposes, use normal depreciation per books, and normalize the difference between accelerated and straight line tax depreciation by deferred tax accounting per books. In the past many public utilities have claimed deductions for depreciation for federal income tax purposes in amounts in excess of the deduction taken in computing net income per books. In addition, there are items such as:

(1) Interest during construction, deducted currently for tax purposes but capitalized per books

(2) Portion of contributions to pension trusts deducted for tax purposes and capitalized per books

(3) Portion of taxes, including payroll taxes and state sales and use taxes, expensed for tax purposes, but capitalized per books

(4) Intangible drilling costs expensed for tax purposes but capitalized per books and depreciated over the life of the property

(5) Losses on property abandoned taken as a deduction for tax purposes but charged to the depreciation reserve for book purposes.

Affects company's net

The foregoing examples of differences in the treatment of certain items for book purposes and for federal income tax purposes necessarily affect the company's net income for federal income tax purposes and the company's tax earnings and profits for the purpose of determining the extent to which dividends paid are subject to tax in the hands of shareholders.

There are numerous adjustments that must be made to taxable net income in order to determine a company's earnings and profits. For example, earnings and profits include tax-free interest. Losses and expenses which are disallowed as deductions from income for income tax purposes reduce earnings and profits. Also, for the purpose of computing earnings and profits, a company is required to use cost depletion even though percentage depletion has been used in computing the company's federal income tax liability. In computing a company's earnings and profits it is necessary to take into account dividends paid and consideration should be given to the date of declaration.

Federal income taxes must be deducted on an accrued basis, even though such taxes are not deductible for income tax purposes, and consideration must be given to the effect of contested taxes and subsequent deficiencies or refunds in taxes. Most large corporations tracing their history back to 1913 or prior thereto, in addition to solving the problems resulting from mergers, consolidations, liquidations, and acquisitions for cash or stock, will find some periods covered by consolidated returns during which there were transactions between affiliated companies even though separate returns are filed currently.

The treatment of transactions between affiliated companies in determining the earnings and profits of each company is entirely different from the determination of the consolidated taxable net income of the group or the adjustments required to be made for income tax purposes. Contributions in aid of construction have been excluded in computing accumulated earnings and profits.

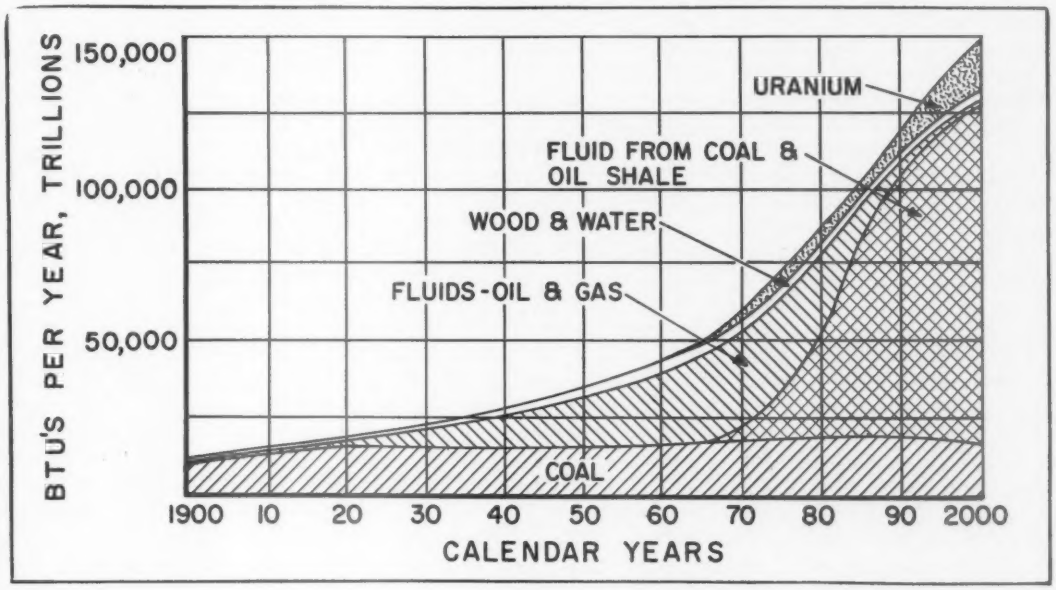
The determination of the company's accumulated earnings and profits might involve the treatment afforded the purchase of bonds at less than face amount, the retirement of preferred stock including not only the call premium but also the expense of issuance, the prior treatment of bond discount and bond premium, spin-offs and split-ups, and numerous other items.

Although tax problems involving the computation of "earnings and profits" have existed since the beginning of the federal income tax law on March 1, 1913, for the purpose of determining tax credits or deductions of the company or the tax ability of dividends in the hands of shareholders, there are many areas in which no definite published authority exists. Accordingly, in determining the earnings and profits of a public utility for federal income tax purposes, because of the numerous complicated problems involved and the lack of authoritative answers, it is necessary to approach the problem from many

(Continued on page 32)

We must consider all possible methods for extending the life of our solid fossil fuels

Nuclear, solar energy to aid gas



By MARTIN A. ELLIOTT
Director
Institute of Gas Technology
and MARVIN CHANDLER
President
Northern Illinois Gas Co.

Today's advanced technology owes its existence to basic scientific discoveries made long ago. In retracing a technological development, we reach a point at which the scientific knowledge accumulated up to that time indicates the possibility of ultimate practical application of the work.

(This paper, prepared by Dr. Elliott and Mr. Chandler, was presented by Dr. Elliott before the American Gas Association General Management Conference in Washington, D. C. held March 31, April 1-2.)

At that point we are still at the frontiers of science and may remain there until enough knowledge has been created to pioneer the technology. With this pattern before us, let us consider some of today's frontiers of science and technology, and attempt to project these into the future operations of the gas industry.

When we reflect upon the rapid technological advances of the past two decades, we can project with real conviction and enthusiasm. We have seen basic research on atomic nuclei blossom into large-scale production of energy by fission reactions and the transistor and solar battery emerge from fundamental studies of solid state physics.

With this record before us, one may be led to believe that almost any reasonable prediction of future progress has an excellent chance of becoming a reality.

But we must not let our past experience make us complacent about our future progress, because we will not maintain the same rate of progress and degree of success unless we support and expand our basic research. Basic research has in the post-Sputnik era become a popular cause, but for many years, scientists repeatedly emphasized the need for more basic research. Basic research must expand with technological progress. Accordingly, when we explore today's frontiers of science and their applicability to the future progress of the gas industry, we are at the same time directing management's attention to those areas of fundamental research that are important in the industry's long range planning, and therefore should be fostered, and

Table 1.—FUTURE FOSSIL FUEL RESERVES

	Total	Recoverable as Primary Fuel	Recoverable as Fluid Fuel	Cumulative U. S. Energy Demand 1958-2000
Coal	20.5 Q*	5.1 Q†	3.0 Q	
Crude Petroleum	1.1 Q	0.5 Q	0.5 Q	
Natural Gas and natural gas liquids	1.3 Q	0.6 Q	0.6 Q	
Oil Shale				
Colorado	7.2 Q	4.9 Q	4.9 Q	
All other states	11.8 Q			
Total	41.9 Q	11.1 Q	9.0 Q	3.6 Q

* Q = 10^{18} Btu = 10 trillion therms of natural gas (a sphere of natural gas 24 miles in diameter).
† An additional 6.2 Q could be recovered at 1.25 to 1.50 times present prices.

supported.

The future of the gas industry is linked with the over-all energy problem. Studies indicate that the future demand for energy will be enormous if our sociological and economic progress continues. In fact, the question is not one of demand for energy, but rather how to advance our knowledge and technology so that we can satisfy this demand in the long range future. Thus the gas industry along with other energy producing industries has an extremely bright future insofar as the demand for its product is concerned.

The pattern of energy utilization in the past and projected for the future shows the prominent role played by the fluid fuels—oil and gas. Figure 1 presents an objective view insofar as the gas industry is concerned, because it was prepared by Dr. Lawrence R. Hafstad, whose background is in nuclear physics. It reflects the consumer's awareness of the significant advantages of the fluid fuels and of the value of energy in this form.

The pattern of consumption of primary energy shown in Figure 1 should not be construed as a time table, but as a qualitative indication of trends. Thus we see that at some time in the future, the greater portion of our fluid fuels must be derived from the solid fossil fuels. Therefore, in looking toward the future, we must consider not only the potentialities of gas production processes, but also the supply of fossil fuels.

Recent estimates of the total future reserves of fossil fuels in units of Q are shown in column one of Table 1.

It must not be inferred from Table 1 that we can be complacent about our fossil fuel reserves. However, the indications are much more favorable than earlier projections, principally because of the enormous increase (twelvefold) in the estimates of energy recoverable from oil shale. Thus in the next half century or more, our fossil fuels could supply all of our energy requirements in the form of fluid fuels.

In the long range future, we must look to other sources for fluid fuels, but before this, our long range planning should consider all possible methods for extending the life of our solid fossil fuels and for making the maximum quantity available for conversion to fluid fuels.

Vast quantities of natural gas are produced in the Middle East and in Venezuela, where no local market exists for this gas. This fact along with the high fuel costs and energy shortage in Western Europe has given considerable impetus to developments in tanker transportation of liquefied natural gas. The first trial tanker to carry about 90 MMcf of liquefied gas is under construction, and soon deliveries will be made to the North Thames Gas Board in London. Here our industry is witnessing the early stages of a new technology which holds great promise for augmenting our domestic supplies of natural gas and for conserving our solid fossil fuels by postponing the time when it will become necessary to gasify them.

Oil shale is the unsung hero of our fossil fuel reserves. Table 1 shows that our supplies of oil shale from the Green River formation alone would yield 65 per cent more fluid fuel than our economically recoverable reserves of coal. Oil shale has been considered only as a future source of petroleum products, and methods for extracting crude shale oil have been developed by the Bureau of Mines and by the Union Oil Co. Our deposits of oil shale have been carefully investigated, and it is almost certain that our reserves in the Green River formation are known with greater accuracy than in the case of any of the other fossil fuels. Such vast and well-defined reserves should certainly be considered as a source of high-Btu gas in the future.

The Institute of Gas Technology has recently begun a basic study of the production of high-Btu gas directly from oil shale as-mined without first retorting the shale to produce shale oil. Even though this work is in the early basic research stage, it has already been shown that oil shale can be hydrogenated directly at moderate pressures to give a net yield of 2500 cf of high-Btu gas per ton of shale, which alternatively could produce 23 gallons of shale oil. This demonstration indicates that the gas industry can tap our enormous reserves of oil shale as a potential source of high-Btu gas in the future.

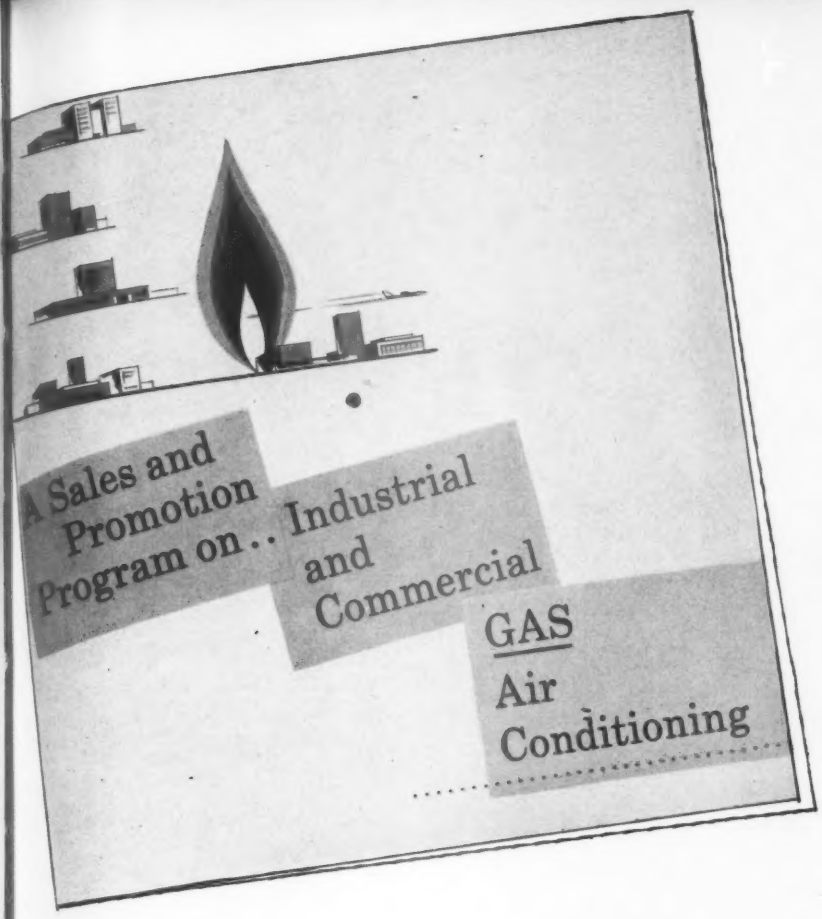
Two processes can be used to produce high-Btu gas from coal. The first is the methanation process. In this process coal is gasified to produce synthesis gas which is then purified and converted to methane or high-Btu gas in the presence of a catalyst. This process is in an advanced stage of development, and considering technology alone, it could be operated today if necessary.

The second process involves the reaction of coal directly with hydrogen at moderate pressures and elevated temperatures. Although we are still at the frontiers of technology, the results obtained thus far point to the eventual successful technical development of this process, and thus to its availability to the gas industry as another method for producing high-Btu gas from coal.

The vast storehouse of energy made available to us through nuclear reactions awaits only our ingenuity before all of its potentialities can be translated into direct benefits to our energy system. United States reserves of nuclear fuel have been estimated at 1500 Q, which is about 400 times our energy requirement for the next 40 years. Developments in the utilization of nuclear energy are in their infancy, but already it is apparent that many of these developments can be effectively applied to gas production processes and gas industry operations. Since both radiation and heat can conceivably be used in these applications, the gas industry offers a significant peacetime potential for nuclear energy.

The most obvious application of nuclear energy to the production of gaseous fuels is its utilization for process heat.

(Continued on page 34)



Commercial Gas School set for Chicago week of May 5

Volume air conditioning drive begins

The Industrial and Commercial Gas Section's large volume gas air conditioning sales and promotion program is underway.

Robert H. Combs, air conditioning representative for Oklahoma Natural Gas Co. and chairman of the Section's Air Conditioning and Heating Committee, said that copies of the portfolio describing the program have been mailed to member companies.

Purpose of the portfolio is to arouse interest among members so that they may secure for themselves the profitable summer load created by large volume air conditioning.

Mr. Combs said that air conditioning, especially large tonnage installations, looms as one of the greatest load potentials in the history of the gas industry. The portfolio sets forth, step by step, details as to organizing an air conditioning sales force and how to lay the groundwork for utility sales programs.

There are many gas air conditioning installations throughout the country that measure their cooling requirements in thousands and tens of thousands of tons. The gas industry stands ready now to supply the equipment for gas air conditioning whether it be the absorption type or the mechanical type which can use gas engines or steam turbines as the prime movers.

Some salient features in the portfolio are:

Plans for developing sales,

Information letter on large volume gas air conditioning,

Case histories on large volume gas air conditioning,

Operational studies and testimonial reports,

Feasibility studies—what they are, their value and, how to use them,

Manufacturers printed sales material,

A. G. A. promotional material.

Air conditioning equipment manufacturers are cooperating with A. G. A. in furthering this promotional activity. These efforts together with the Industrial and Commercial Gas Section augmented advertising in trade publications completes the cycle of this 1958 gas air conditioning promotional program.

Commercial gas school

The biennial Commercial Gas School will be held the week of May 5 at the Edgewater Beach Hotel in Chicago. As in former years, the school will run concurrently with the National Restaurant Exposition on Navy Pier where the Industrial and Commercial Gas Section sponsors the Combined Commercial Gas Exhibit.

The school is designed to provide basic training and to serve as a refresher

course for all who sell or promote commercial gas and commercial gas equipment. During the five-day course, lectures will cover the types of equipment used for commercial cooking with special emphasis on frying, baking and counter appliances.

Controls, air conditioning-ventilation, water heating, steam generation, incineration, selling, cost calculations, service and installation also will be covered.

Modern commercial gas equipment will be displayed around the room where the lectures will be delivered. Then there will be both a filmed and live demonstration on deep fat frying. As part of the course, one entire day will be spent by the students on an inspection tour of the restaurant show on Navy Pier. The traditional faculty-student get-together dinner will also be a feature.

A copy of the A. G. A. manual, "Commercial Kitchens," will be furnished as the school's principal textbook. Copies of the National Sanitation Foundation Standards, together with bound copies of the lectures, also will be furnished.

The program provides ample time for questions and discussions at the end of each morning and afternoon session.

Only one lecture, "Calculating Cooking Costs," will be presented during the first morning session Monday, May 5, due to time consumed by registration and opening remarks. In the afternoon there will be a panel discussion on "Beating Electric Fryer Competition," followed by the two frying demonstrations.

Tuesday, May 6 will be devoted to a field trip to the restaurant show. That evening the get-together dinner will be held.

Opening the series on Wednesday, May 7 will be a lecture on, "Selling Gas Incineration," followed by "Kitchen Exhaust Requirements" and "Compartment Steamers and Stock Kettles." In the afternoon there will be two talks by members of the National Sanitation Foundation and a showing of the A. G. A. film, "How Clean Is Clean?" Then, "Market Analysis for Commercial Water Heating" and "Large Volume Water Heating" will follow.

On Thursday, May 8 "Hi-Speed Heavy Duty Ranges," "Heavy Duty Range Tops," "Steam Generation," and "Conventional and Open Hearth Broilers" will comprise the morning lectures. In the afternoon the "Indirect Fired Deck Oven" and the "Revolving Tray Oven" will be discussed at length.

Friday morning, May 9 a number of subjects will be discussed including the "Commercial Research Program," "Modern Sales Methods" and "A. G. A. Promotions." On specific equipment there will be two lectures, one on "Counter Equipment" and the other on "Commercial Air Conditioning." Completing the five-day course on the last afternoon, there will be an inspirational sales talk by Milton J. Firey.

The Commercial Steering Committee of the Section Promotional-Educational Committee, of which Vincent D. Fortunato, The Peoples Gas Light & Coke Co., is chairman, selected lecturers on the basis of their special knowledge and experience in the various segments of commercial gas equipment sales and applications.

The faculty will be: William C. Agnew, Martin Oven Co.; J. A. Belanger, Welbilt Corp.; Robert H. Combs, Oklahoma Natural Gas Co.; M. H. Douglas, J. C. Pitman & Sons, Inc.; Thomas Z. Dunn, The Ohio Fuel Gas Co.; Charles A. Farish, The National Sanitation Foundation.

Also G. W. Field, Cribben and Sexton Co.; L. J. Fretwell, Oklahoma Natural Gas Co.; Paul C. Grimes, The G. S. Blodgett Co., Inc.; Paul Inskeep and E. A. Jahn, American Gas Association; Richard T. Keating, Frying Equipment & Supply Co.; Malcolm B. MacKay, A. O. Smith Corp.; Tracy B. Madole, Malleable Steel Range Manufacturing Co.

Also John I. Marshall Jr., Middleby-Marshall Oven Co.; L. Frank Moore, The Frymaster Corp.; M. A. Naulin, McNaulin, Inc.; Ove M. Olsen, Sellers Engineering Co.; George Schlatter, The Frymaster Corp.; Roy A. Siskin, American Gas Association; Walter F. Snyder, The National Sanitation Foundation; R. N. Spear, Ruud Manufacturing Co.; King Taylor, Vulcan-Hart Manufacturing Co., Inc.; Hayes S. Walter, American Gas Association; Harry B. Wilson, The Brooklyn Union Gas Co.

Presiding at the sessions will be Roy E. Wright, chairman, Industrial and Commercial Gas Section; Mr. Fortunato; Thomas Z. Dunn, The Ohio Fuel Gas Co.; and Lester A. Dubberke, commercial sales manager, Milwaukee Gas Light Co. Registration is limited to employees of gas companies, gas equipment manufacturers, gas equipment dealers and present or prospective commercial gas customers.

The tuition fee is $47 payable to A. G. A. with registration. Students will pay for their own hotel rooms and meals. Final closing date for registrations is April 30. A copy of the program together with registration blanks may be had by writing the secretary, Industrial and Commercial Gas Section, American Gas Association, 420 Lexington Avenue, New York 17, New York.

Tax-free dividends

(Continued from page 28)

points of view, including:

(1) The World War I Excess Profits Tax law

(2) The Undistributed Profits Tax enacted in 1936 and continued through 1939 in modified form

(3) World War II excess profits tax law

(4) The dividends paid credit or deduction on certain preferred stock

(5) The Korean War excess profits tax law

(6) The extent to which dividends are paid out of other than earnings and profits from the point of view of the shareholder.

The company, for one reason or another, may have made prior computations of earnings and profits for some purpose other than the purpose of determining the taxability of dividends in the hands of shareholders. Such prior determinations are not necessarily conclusive, for the determination may have been made under a rule of law which is not applicable for the purpose of determining the taxability of dividends in the hands of shareholders, or under a rule of law which is no longer applicable.

The problem must be approached from the point of view of the shareholder under the law as it exists today. Any prior determination of accumulated earnings and profits should be reviewed carefully under the law as it exists today and any determination once made should be kept up-to-date in the light of changes in the Code and the new interpretations by the Internal Revenue Service and the courts.

A. G. A. Board approves standard purchase specifications for small diaphragm type gas meter

Meter standardization aids costs

By JAMES WEBB

Chairman,
A. G. A. Task Committee on Standardization of Meter Specifications

The gas industry has established standard purchase specifications for small diaphragm type gas meters.

For years, gas leaders realized the economies and other benefits to be derived from the standardization of the small gas meter. Several attempts to achieve such standardization were made, all ending in failure. Now, by action of the American Gas Association Board of Directors, standard purchase specifications are a fact.

On March 20 in Boston, the Board approved the specifications, developed over a three-year period, by the Operating Section's Task Committee on Standardization of Meter Purchase Specifications. They had previously been approved by the Section's Managing Committee and the Executive Committee of the Board. Copies will be distributed nationally early in May.

In developing these specifications, the Task Committee took into account previous attempts which ended in failure. The minutes and reports of previous committees were reviewed and a comprehensive program set up to avoid the pitfalls into which others had fallen. For example, in the past attempts had been made to design a standard gas meter. The Task Committee made no such attempt. Instead, members specified definite desirable factors of performance, interchangability, sustained accuracy and stability in a displacement gas meter. Responsibility for the design and construction of the meter was to remain with the manufacturer.

The new specifications do not limit the manufacturer with regard to style, appearance, materials or methods of assembly. To do so in the interest of standardization only, the committee felt, would restrict a manufacturer in providing new developments in the future.

James Webb's committee spearheaded three-year campaign for meter standardization, now will continue in "watchdog" capacity

The committee believes that standardization which is unduly restrictive can discourage competition and therefore be harmful to the industry.

The committee recognized the enormous responsibility of its assignment and the numerous questions which would have to be answered. It enlisted the support of A. G. A. member companies. Seventy-nine companies in the United States and Canada were contacted by questionnaire, ranging from smaller organizations with 5,000 meters to the larger utilities with more than a million. Complete and informative replies were received from 69 companies. This was proof that there was considerable interest in meter standardization.

Based upon this preliminary information, manufacturing data, tests and previous experiences, a first draft of proposed specifications was prepared. This was revised as was the second draft. The third draft was submitted for review to the 69 companies who participated in the original questionnaire. These companies were requested to submit comments, and every comment was considered.

The industry was informed of committee work through progress reports and by presentations at the Operating Section's spring conferences and A. G. A.'s annual convention.

At all times, the committee functioned on behalf of the American Gas Association, and not of the respective companies. It was believed that, by keeping this perspective, the resulting specifications would be representative of the interests of the entire industry.

The Committee realizes that its speci-

(Continued on page 36)

(Mr. Webb is the superintendent of the meter bureau for Consolidated Edison Company of New York.)

Nuclear energy

(Continued from page 30)

Many gasification reactions absorb energy, which with present technology must be supplied by fossil fuels burned with oxygen. If nuclear fuels supplied the energy requirements of gasification processes, our reserves of solid fossil fuels would be extended and conserved for conversion into fluid fuels.

This could have a significant effect on the life of our coal reserves. Both the Bureau of Mines and the Atomic Energy Commission are cooperating in the development of gasification processes using nuclear energy. Many problems involving materials of construction, control of radiation and release of energy at gasification temperatures must be solved. However, the solution of such problems is also important to the economical generation of electricity from nuclear fuels. Technological advances in this latter field will also be applicable to the use of nuclear energy in process heating and gasification reactions.

The application of nuclear radiation to chemical processing is a field that is developing rapidly, but in the case of gasification reactions, the surface has barely been scratched. Studies made at the Armour Research Foundation show that coal may be broken down (depolymerized) into simpler chemical compounds by gamma radiation. Such treatment will doubtless yield a more reactive material for subsequent conversion to high-Btu gas. Other applications of radiation chemistry to gas production processes include acceleration of gaseous reactions and innumerable possibilities in activating and developing inexpensive catalysts with specific properties.

Solar energy is our major source of income energy. Effective and economic utilization of large quantities of solar energy in photochemical reaction of interest to the gas industry depends on continued progress and support of basic research on photochemistry and biochemistry. We are truly on the frontiers of science in the photochemical utilization of solar energy and the fixation of carbon from the atmosphere.

However, many methods under consideration would be ideally suited to gas industry operations. For example, the photochemical decomposition of water into hydrogen and oxygen in the presence of ceric and cerous ions has extremely interesting possibilities if the over-all efficiency could be improved. This and similar developments, although they may be far in the future, are important to the gas industry because they promise a source of fuel that is dependent only on solar energy and water. Thus gas supply would be assured even in a non-fossil fuel era.

Offers proven method

We know that storage of gas derived from solar energy offers a proven economical method for solving the storage problem, and at the same time puts the energy in a form that can be transported and distributed more economically than electricity. In fact, the cost of distributing gas is less than one-fifth of that for distributing an equivalent quantity of electrical energy. We can but conclude from the foregoing that gas is destined to play an important role in any future large scale indirect utilization of solar energy.

The fuel cell is the ideal means for converting the chemical energy of fuels into electrical energy. The fuel cell is analogous to a storage battery. In the storage battery the energy from a chemical reaction is converted into electrical energy at ordinary temperatures. Similarly, in the fuel cell the energy released when gas reacts with air is also converted directly into electrical energy at moderate temperatures.

The fuel cell provides a means for accomplishing this conversion and for making possible the combustion reaction at relatively low temperatures. Because of its low operating temperature and direct conversion of chemical energy into electrical energy, the fuel cell has an over-all efficiency more than twice as great as the conventional steam power plant. Thus the development and commercial application of the fuel cell would have a major effect in extending the life of our fossil fuel reserves.

The history of the fuel cell extends back more than 100 years, but it was only comparatively recently that fuel cells operating on hydrogen were developed. It has been stated that the use of fuel gases offers the greatest promise for the commercial development of the fuel cell, because solid fuels create operating problems and inherently give lower efficiencies. It is apparent, therefore, that gaseous fuels are an essential ingredient for the successful development of fuel cells.

The potential application of the fuel cell when it is fully developed would complement the already diverse applications of energy in the form of gaseous fuels. Thus the fuel cell could be a major factor not only in our over-all energy system, but also in the future utilization of gas.

The direct reduction of iron ore with hydrogen or carbon monoxide is a development that is currently under intensive study. Here again is a new technology based on gaseous fuel that would obviate the need for large quantities of coking coal. The source of gas for reduction may be either natural gas, oil or coal. Thus off-peak gas could be used when available and the alternate fuels used during the gas industry's peak periods. In any case, economic incentives will stimulate the technology of gas production processes by all industries involved, and the gas industry is thus assured of direct benefits when its product is used, and of indirect benefits resulting from advances made in gasification technology.

We can but conclude that today's scientific and technological developments foretell an extremely bright future for the gas industry. Lest we become overconfident about this rosy outlook, a word of caution should be injected. These projections may not come to fruition, or may come to fruition too late unless both basic and applied research is actively supported. These activities must be supported with real conviction, understanding and enthusiasm. We all know that our industry has for many years been active through the American Gas Association PAR Program in supporting both basic and applied research in many of the fields mentioned. However, let us recognize that research needs to grow as the industry grows, and let us as a part of our management responsibilities, see to it that our industry's support of research is adequate to insure the bright future indicated by today's science and technology.

Fred Maytag selected

FRED MAYTAG II, president of Maytag Co., has accepted the invitation of Iowa's Gov. Herschel C. Loveless to serve on the Commission for the Study of Social and Economic Trends in Iowa. Mr. Maytag was among 90 prominent Iowans invited by Gov. Loveless to serve on the commission.

The two major Residential Gas meetings will be held next month. Sites are New York, Chicago

East, West conferences ready

EASTERN GAS SALES CONFERENCE

Gas year-round air conditioning, the new home market, gas refrigeration and dealer training will be among the subjects discussed at the Eastern Gas Sales Conference in New York's Park-Sheraton Hotel May 12 and 13.

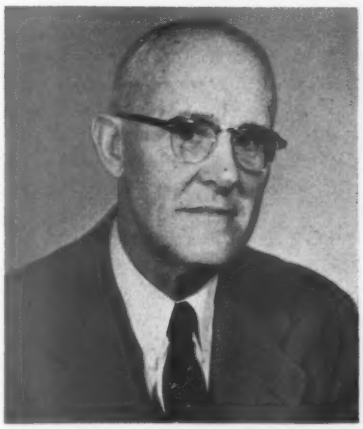
Howard Niles, assistant to the manager of residential sales, Public Service Electric and Gas Co., and chairman, Eastern Gas Sales Council, will preside at the May 12 session. The May 13 session will be directed by Charles E. Gordon, business promotion manager, United Fuel Gas Co., and vice-chairman of the council.

On opening day, the importance of the gas year-round air conditioning load for maintaining and expanding the heating load will be discussed by W. W. Selzer, director of business promotion, Columbia Gas System Service Corp. He is chairman of the A. G. A. Gas Air Conditioning Promotion Committee. Mr. Selzer's address will be "The Sleeping Giant in the Valley."

The new home market is of vital importance to the gas industry, not only in itself but because new homes set the pattern for the modernization of existing homes. This subject will be featured at the conference through a panel discussion by four gas company sales executives under the title "Selling Gas in the New Home Market."

R. M. Marberry, general sales manager of Whirlpool's gas utility division, will discuss the sales promotional and advertising plans for the gas refrigerator. His topic is "The New Look in Gas Refrigeration."

With the dealer accounting for more than 90 per cent of all appliances sold, James J. Condon, manager of the domestic sales department, The Peoples Gas Light & Coke Co., will discuss training dealer gas utility contact people, under the title "Training the Dealer for Action." This presentation will be followed by a panel discussion called "Selling Through Dealers." Participants will be sales executives from gas utility companies who have been particularly successful in this activity.



Howard Niles will preside at Eastern Gas Sales Conference in New York May 12-13

George D. Lyon will direct the Midwest Gas Sales Conference in Chicago May 19, 20, 21

The manufacturers' friendship room, sponsored by the gas appliance manufacturers, will be held Monday afternoon from 5 to 7 o'clock.

The first speaker Tuesday morning will be Miss Maryanne Jones, supervisor of home service, New Jersey Natural Gas Co., who will discuss home service as a member of the gas industry sales team. Her topic is "Service Is Our Business."

Also included on the program will be a skit entitled "Keys to Gas Load," by representatives of Philco-Bendix, dramatizing the importance of the automatic washer and dryer as a gas load builder. The morning session will be concluded with an address entitled "An Ounce of Prevention," by John H. Brinker, vice-president of the Permaglas Division, A. O. Smith Corp.

The conference will close following the 12:30 p.m. luncheon.

C. S. Stackpole, A. G. A. managing director, will be the luncheon speaker. Miss Julia Meade also will speak briefly at the luncheon.

Attendance prizes will be awarded at the end of the luncheon address.

MIDWEST GAS SALES CONFERENCE

Top executives from gas and other industries will address the Midwest Regional Gas Sales Conference at the

Edgewater Beach Hotel in Chicago, May 19-21.

The conference, sponsored by the Residential Gas Section, will be under the direction of George D. Lynch, sales manager, Northern Illinois Gas Company and chairman of the Midwest Regional Gas Sales Council. The keynote address will be delivered by Robert W. Otto, chairman, Laclede Gas Co., and president of A. G. A.

The program will feature a presentation on the diversified activities of home service in sales.

The importance of motivating sales personnel will be studied, in addition to two complete panel discussions, one on "Selling Through Dealers" and "Gas and the New Home Market". Time for questions and answers will be provided following discussions by six gas utility sales executives.

Another topic on the three-day conference program will be building the residential load.

Speakers will also talk on communications, a review of major industry problems and an analysis of the global situation under the title, "The World—Yesterday and Today." The conference program also will include a presentation on LP-Gas and gas year-round air conditioning.

Some of the speakers are: Elisha Gray, II, president, RCA Whirlpool Corp.; Max Fetty, vice-president, Delta Tank Corp.; Dr. Ernest Anderson; W. W. Selzer, director of Business Promotion, Columbia Gas System Service Corp.; and William Gove, formerly associated with the Minnesota Mining Co.

The annual dinner and entertainment, sponsored by the gas appliance manufacturers, will be held on Monday evening, May 19. Following established practice, no session will be held Tuesday morning.

Northern Illinois Gas Co.'s all-gas trailer will be on exhibit at the hotel parking lot. Attractive attendance prizes will be awarded at each session.

Meter standards

(Continued from page 33)

fications are not perfect. However, it feels that they will meet the requirements of most A. G. A. members. Furthermore, it plans to continue in a "watchdog" capacity for the purpose of making any revisions or additions to the specifications, as desired by the industry.

The committee now is concerned primarily with enlisting industry support to make the specifications effective. This requires the cooperation and confidence of management, purchasing agents, meter and distribution engineers, storekeepers, meter superintendents, manufacturers, and other interested persons.

It is universally realized that there is much to be gained from standardization, since standardization is simplification, and simplification is economy. The specifications will result in economy by eliminating the duplication of work caused by minor changes in a relatively standard product. This is particularly true today. With more and more natural gas being made available, fewer meter sizes will be required to meter 90 per cent of all customers who comprise the domestic category. The three classes of meters standardized in the specifications will meet the need for this majority of domestic customers and small commercial and industrial loads.

The Task Committee included representation from both utilities and manufacturers. They are:

James Webb, chairman, Consolidated Edison Company of New York, Inc.; Pat H. Butler Jr., Washington Gas Light Co.; J. W. Chrisman, The East Ohio Gas Co.; C. B. Dushane Jr., American Meter Company, Inc.; Gilbert Estill, Oklahoma Natural Gas Co.; W. H. Knight Jr., The Cleveland Gas Meter Co.

Also Andrew Lovretin Jr., Public Service Electric and Gas Co.; Allen D. MacLean, Superior Meter Co.; L. A. McGowan, Rockwell Manufacturing Co.; Andrew Pompa, Accurate Meter Co.; A. W. Rauth, Consumers Power Co.; P. V. Resko, The Sprague Meter Co.; C. J. Sevey, Southern California Gas Co.; J. T. Stine Jr., New Orleans Public Service Inc.; J. S. Setchell, secretary, and Fredric Moshier, assistant secretary, American Gas Association.

The specifications will include an appendix which describes the various tests and procedures to fulfill requirements as outlined in the body of the specifications.

They also will include a glossary defining the various metering terms used within the specifications.

Commercial census

(Continued from page 10)

4. Furnished to the sales department the following lists:

(a) Large volume cooking customers, with users of electric equipment identified.

(b) Names and addresses of apartment houses.

(c) Users of gas designed and gas conversion burner heating equipment having more than 500,000 Btu hourly input for inspection and service purposes.

(d) Names and addresses of public schools.

5. Used data relative to maximum potential heating and process loads to prepare five- and ten-year forecasts of additional sales in the commercial market—a part of an over-all three-market forecast.

6. The customer data cards are being kept up to date as new commercial accounts are added or old accounts are cancelled or altered.

7. The field census sheets, which have been preserved, together with the corresponding IBM data cards, constitute the only source in the company where one can find a record of the gas uses of commercial accounts.

In summary, it can be said that Equitable's experience with its 1955 commercial census project demonstrated that valuable management, sales, and customer use characteristics data can be obtained by such a commercial census project. The usual marketing research techniques are not readily adaptable to the commercial classification. A specialized approach, tailored to fit the specific utility definition of the commercial classification, is necessary in each case. For a company which has made no previous studies of the commercial market, a classification census is probably the most practicable first step. Then, from this classification study more detailed studies of each or selected sub-classifications of the market on a sample basis can be worked out. If, however, the company wants to do the whole job in one step, a complete census such as that made by Equitable is feasible and will be well worth the expense and the time involved.

Weird things with heat

(Continued from page 21)

sun." The sun's warmth is a perfect example of radiant heat.

In a radiant gas burner the flame's heat is collected and reflected by an incandescent ceramic cup in much the same light is collected and focused outward from a flash bulb nestled in a polished reflector. The electromagnetic rays of radiant heat that do the job, explains Mr. Mann, travel with the speed of light. So, response to control is just as fast as the time it takes to cut in, or cut out, the source of incandescence. On radiant-heat burners it's done in less time than it takes you to blink, either by turning the whole battery of burners away and focusing the heat rays elsewhere, or by moving the work away. "The shorter the distance between burner and workpiece, the more effective the heat transfer," explains Mr. Mann.

"Heat," Fred Hess will tell you, "is really just oxidation in a body of matter —a chemical reaction. We simply control the degree of oxidation. In one case—like baking of loaf of bread—you want to distribute the heat throughout the material; in another—such as blowing a hole for electrodes in a radio tube —you aim the heat to get the job done."

By arranging burners in rows, circles, clusters, columns and other formation, Selas engineers can put intense heat exactly where they want it. For a tractor company that needed the teeth hardened on its bogey wheels without hardening the rest of the wheel and making it brittle, the furnace became a circle of burners, blasting only the rim gears under white heat.

For U. S. Ordnance, the furnace is a series of tunnels totaling a mile in length, lined with burners so white with heat that their dazzling glare will blind you if you look at them without glasses for any time. Through this Hades move 12½-ton, cast-steel tank hulls, heat-hardened to toughness matched only by wrought armor plate. Thousands of radiant burners, aiming their penetrating heat in predetermined patterns on the massive hulks, do the baking job.

Some "ovens" get to be pretty complex. "Glass fiber originally was made by steam," relates Mr. Hess. "It came out brittle and was useful in only a few industrial applications. We were asked to do something about it some years ago, and our engineers finally came up with the jet-flame principle that makes today's fine, flexible threads. We concentrated the heat into jet-speed flames. The heat melts the glass and the jet energy disperses it. The roaring hot exhaust gases are used to carry the threads away where they can be gathered up. Out of these threads, today, come your fireproof draperies, refrigerator insulation and glass wool products."

Problems like this are always being thrown at Mr. Hess' heat experts. When Detroit automobile designers drew the first wrap-around windshield on a proposed new model, everyone agreed it was great. But nobody knew how the multiple curves could possibly be made cheaply and efficiently within the close tolerances needed for mass production. The problem fell in Selas' lap. Mr. Hess' men came up with a simple tunnel in which rows of radiant-heat burners line the roof.

Flat-glass windshields, precut to proper pattern, enter the tunnel on moving racks. By the time they've reached the other end, radiant heat has softened them just enough so they droop into the bottoms of the racks like strips of soft clay slumping into a curved bowl. The rack bottoms are shaped to the exact mold of the desired wrap-around form, and the softened glass follows every curve.

The plastics people have a few things to thank these industrial cooks for, too. When polyethylene film first came out, packagers wouldn't use it because it was impossible to put printing on the surface. Selas engineers discovered that if the film could be heated to 825 degrees, a chemical change occurred that made the plastic substance ink-receptive. Unfortunately, at 450 degrees polyethylene film is utterly destroyed.

Undaunted, the heat wizards fed the film around a chilled drum that kept the bottom of the sheet cold. On the way around, it passed under a single row of radiant burners that threw fierce heat at it for the fraction of a second it took the drum to rotate past it. In that instant the top .0004 inch of the film got a dose of heat equal to 825 degrees; the bottom stayed cool due to the chilly drum and brief heat exposure. Today packagers print anything they want on that surface.

For the cosmetic industry and insecticide makers, the heat engineers found a way they could use cheap glass containers for their products. For years these people had shied away from putting high or even low-pressure fluids in bottles due to the danger of explosive breakage, by using close-tolerance radiant heat to preheat the glass, molding a plastic covering over it, conditioning the plastic surface for printing, and quick-drying the printing.

Mr. Hess' cooks did the job. Now glass bottles are used for all kinds of bug killer, toilet water, shaving cream and the like under pressure, with spray caps. If dropped and broken, the plastic envelope contains them. This, Mr. Hess, proudly points out, is one of the finest examples of heat used as a multiphase processing tool.

Extremely high temperatures often cause substances to do strange things, which the experts can put to good use. If you heat metals high enough, for instance, they'll vaporize like steam. Make this happen in a sealed chamber, and that metallic vapor will condense on any articles you put in the chamber, giving them a shiny, metallic surface. That's how the silver and gold threads in auto seat covers, draperies and gowns are made. Put a piece of glass in the chamber and a mirror comes out. If the metallic deposit is thin enough, it's a two-purpose mirror: A person on one side can see through it, while a person on the other side sees a reflection.

Fierce heat applied to fine metal or ceramic powders under proper conditions can be made to fuse such particles into a solid mass without melting them. This is called sintering. Solid chunks of metal or ceramic with special characteristics can be made this way out of powders that have extremely high melting points without having to heat the material to anything like its melting point.

Study of such curiosities accounts for the fact that Selas now sells holes to people. Holes are worth plenty to hospitals, cancer laboratories and even the U.S. Air Force. George Jordan is the man at Selas whose job it is to find new uses for holes, and sell them. One big customer is Jackson Cancer Laboratory in Bar Harbor, Me., where cancer cultures are grown and shipped to other laboratories all over the world. The food on which these tissues grow best is a broth made from part of a nine-day-old chicken egg. The broth must be absolutely pure—uncontaminated by any bacteria from the air or the egg itself.

To guarantee such purity, cancer technicians must filter out unwanted bacteria, and that takes some filter. But

Selas' heat experts discovered a way to cook them up by the dozen. In special ovens they developed a remarkable porous ceramic with 30 million holes to the square inch. The pores are so minute that, although molecules of pure broth can pass through, bacteria cannot.

The white cylindrical filters look like porcelain fillers for Thermos bottles. Mr. Hess likes to pick one up and tell you to touch it with the tip of your tongue. If you do, you'll find the moisture sucked away with the pull of a strong vacuum. "Capillary attraction," laughs Mr. Hess. "Don't put the surface of your tongue against it or you'll never get it off!"

He's right, too. The capillary tug of those 30 million invisible holes has more "cling" than a suction cup.

Today similar filters are used to produce sterile water for hospitals. And you'll find them in floating radar devices used by the Air Force. The filters permit the half-submerged units to "breathe."

These are just a few of the things that heat is making for us today.

Cutting costs

(Continued from page 11)

errors in social security numbers or names which on the average will occur during the reproduction process, and which must be corrected.

Using the withholding tax statement for social security as well as income tax purposes will obviously reduce this paperwork burden considerably. The amount of the saving will depend in part on the actions taken in connection with state unemployment insurance programs, many of which now also require quarterly reports of individual earnings.

Many states now accept carbon copies of schedule A. However, in 12 states, which have approximately 37½ per cent of covered employment, wage details are now prepared only for the Social Security Administration, since the unemployment insurance laws do not require payroll detail to be reported routinely each quarter.

In these states, the proposed federal legislation would immediately reduce the wage reporting burden to a minimum. In the remaining states, relief would be only partial, since quarterly reports would still be required for unemployment compensation purposes. It is inevitable that, should the Social Security Administration require only annual wage details, some or all the states will amend their laws or regulations accordingly, either adopting routine annual reporting or developing procedures for "separation reporting" which requires information on an individual worker's earnings only when he is separated from the payroll.

There are other advantages to the proposed changes in the Social Security Act. Under the present law, many employers find it necessary to make the third month's payment of each quarter through use of depository receipts. This is because the volume of work involved in assembling the pages of wage details (schedule A) makes it inexpedient to file the quarterly return by the normal date due. The proposed amendments would make it possible to make the third month payments direct to the Internal Revenue Service.

In addition to the direct savings to the employer there is a considerable area of indirect savings through two basic improvements:

(1) Increased economy and efficiency by the government: The Social Security Administration received 247,457,000 quarterly wage items in fiscal year ended June 30, 1957, and estimates that the number will total 268,820,000 in the corresponding 1958 period. It is estimated that the enactment of the proposed legislation would reduce the number of wage items processed by the Social Security Administration by approximately 50 per cent. The theoretical savings of 75 per cent would not be obtained since some employes work for more than one employer during the year.

(2) Increase in tax collection: Tax collection will be increased by the proposed legislation because prompt mechanical matching of employer and employe W-2s will tend to eliminate losses from various types of improper procedures and cases of actual fraud.

Under the existing system, matching has been incomplete and has been performed manually. It is accomplished in 3 steps:

(a) The withheld taxes reported on copy A, "for district director," of the W-2 and submitted by the employer are totaled and compared with total taxes on his quarterly returns.

(b) The employe's form W-2, copy B, is compared with his individual income tax return.

(c) The copy A, submitted by the employer is then compared with copy B, submitted by the employe.

With this system, it is difficult to identify the more serious problems in the mass of unmatched cases.

Under the system proposed for use with annual reporting of wages, mechanical matching by the Social Security Administration will result in more complete and more prompt matching and also provide a basis from which other mechanical operations necessary for the posting of social security accounts can be conducted.

In addition to the savings to the employer and the government, the wage earner should be benefited. He would be able to verify that his wage credits for social security purposes are the same as shown on the copy of the W-2 furnished by the employer. Under the present arrangement the employe must periodically request a statement of his earnings from the Social Security Administration or lose any wage credits which have not been reported within the period of time limitation.

The proposed legislation will improve the qualifying requirements which must be met to secure coverage under the Old-Age and Survivors Insurance Program (Title II of the Social Security Act). Under the present Act a non-agricultural employe who has not earned at least $50 in each quarter must earn at least $4,200 during the year to receive four quarters of coverage for that year.

The amendments would place the non-agricultural employe on the annual standard that has prevailed for the self-employed since 1951 and the agricultural worker since 1955. The amendments propose that for each $100 in annual earnings the individual will receive a quarter of coverage. This amendment will permit certain persons working only during a seasonal period to obtain coverage which they have previously been denied.

The proposed legislation for amending the Social Security Act to permit annual wage reporting will be reconsidered during the second season of the 85th Congress and, if received with proper enthusiasm by employers, should be enacted without further delay.

Industry news

'Parade of Progress' set for A.G.A. convention

SIGNIFICANT new developments in gas appliances and utilization technology will be demonstrated at the "Parade of Progress" exhibit, sponsored by the American Gas Association during its annual convention in Atlantic City, N. J., Oct. 13-15.

H. Vinton Potter, vice-president of Oklahoma Natural Gas Co., and chairman of A. G. A.'s Exhibit Planning Committee, reports that the "Parade of Progress" will be educational rather than promotional. The exhibit will be limited to gas utilization items which have become commercially available since October 1956, or soon to become commercially available, and to prototypes of important new gas utilization devices still under development.

Participation will be by invitation from the Exhibit Planning Committee. Final selection of items that qualify will be made by the committee, with the assistance of the Association staff and the General Convention Committee. Sales managers of member gas utilities have been asked to suggest gas utilization items that they believe should be considered for inclusion in the "Parade of Progress." Invitations will be sent to qualifying exhibitors in May.

Displays will be limited to important new developments in gas utilization and will not include full lines of equipment, or refinements in styling or design. Invitations will be sent to the manufacturer or developer of a new utilization item rather than to the commercial user. Displays will be working models and will be demonstrated to emphasize the new development rather than the appliance itself. Items must be A. G. A.-approved if they are now commercially available. Exhibitors will be limited to members of A. G. A. and the Gas Appliance Manufacturers Association.

High on the list of attractions in the October convention exhibit will be a dramatic "Parade of New Freedom Gas Kitchens and Laundries."

One section will be devoted to new developments in residential gas summer air conditioning. Other displays will feature gas refrigerators and smokeless-odorless gas incinerators, as well as various types of new residential, industrial and commercial gas utilization equipment. Also to be displayed will be exhibits from A. G. A. Laboratories and other agencies with which the Association has research contracts.

The "Parade of Progress" will open at noon Sunday, Oct. 12, and will remain open from noon to 6 p.m. daily during the convention. A. G. A. has reserved approximately 23,000 square feet of floor space for the show in Atlantic City's Convention Hall.

Exhibitors' booths will be identical in design, and decorated to focus attention on the items displayed. A. G. A. will provide the basic booths, draperies and floor coverings, informational signs, guards, and central lounge facilities.

Colorado Interstate proposals would give area consumers lowest rates

ACCEPTANCE of Colorado Interstate Gas Co.'s rate settlement proposals by its customers will mean natural gas consumers in the Rocky Mountain area will have the lowest natural gas rates of any section of the U. S., according to Interstate President W. E. Mueller.

Total amount of the refund proposed for the period 1954-1957 is $24,295,395, Mr. Mueller said. Of this, $22,839,365 would be a refund in full settlement of increases filed in 1954, 1955 and 1956 as well as the first six months of 1957. The remainder, $1,456,030, would cover an increase in effect during the last six months of last year. There will be an additional amount of refund for the period from Jan. 1, 1958 to the date of settlement.

The refunds would return approximately $9,346,000 to Public Service Co., which serves the Denver area; $1,406,000 to Pueblo Gas and Fuel Co.; $1,686,000 to the City of Colorado Springs; and approximately $3,438,000 to Colorado-Wyoming Gas Co., which serves northern Colorado and southern Wyoming gas consumers.

Copies of the settlement proposals have been furnished all company customers, federal and state regulatory agencies and also to all other intervenors in the company's rate cases

Arkla ups production

TO ASSURE all utilities of equipment deliveries during the peak season, Arkla Air Conditioning Corp. has decided to make plans to increase its production to 10,000 units in 1958. Previous plans called for 7,000 air conditioning units. In the near future, Arkla will ask utilities to anticipate their needs in the form of a delivery schedule estimate.

Marketing program

JOHN WOOD CO. recently launched "Ac-SELL-erate in '58," a comprehensive marketing program for the sale of automatic water heaters and heating equipment. The program gives strong sales support to John Wood wholesalers, while backing up local level promotions with national advertising. The campaign will encompass several types of promotion assistance, including local newspaper, telephone directory, and radio-TV advertising; displays; sales motivators for wholesalers' customers; direct mail; and a variety of merchandising aids and sales boosters. Organized sales meetings will be held for jobber salesmen and their customers. A new aspect of the program is that John Wood uniforms are now available to counter men, stock men, truck delivery men, and service personnel of jobbers and plumber-dealers.

Navy briefed on GAMA's PR program

During a two-week briefing on major business and industrial public relations programs, Charles C. Kirkpatrick, Navy Department chief of information, studies reports of Gas Appliance Manufacturers Association program. Meeting during this study are (l. to r.): C. Stuart Hall, Carl Byoir & Associates; H. Leigh Whitelaw, GAMA executive vice-president; Eugene Martin (standing), GAMA account executive at CB&A; Rear Admiral Kirkpatrick; Kalman B. Druck, CB&A; and Robert Gardner, CB&A

Association of Washington Gas Utilities re-elects Sturkey

CHARLES M. STURKEY, president of Washington Natural Gas Co., has been elected to a third term as president of the Association of Washington Gas Utilities.

Elected vice-presidents were Nathan H. Gellert Jr., president of Spokane Natural Gas Co., and Edward Niederer Jr., executive vice-president and general manager of Pacific Natural Gas Co.

Robert C. Hayes continues as vice-president and executive director of the organization, which is composed of the eight gas distribution companies operating in the state. Headquarters are in Seattle.

Also elected were William M. Little, executive vice-president of Cascade Natural Gas Corp., as secretary, and Leland E. Jones, vice-president and southern division manager of Washington Natural Gas Co., as treasurer.

Byron T. Holt, vice-president of Eastern Washington Natural Gas Co., and O. Marshall Jones, president of Cascade Natural Gas Corp., were elected to fill vacancies on the board of trustees. Other trustees are W. A. Cook, vice-president of Portland Gas and Coke Co., and A. R. Macfarlane, owner of Olympic Gas Co.

Philadelphia Electric host to 200 industrial gas customers

TWO HUNDRED industrial gas customers of the Philadelphia Electric Co. accepted invitations to be the guests of the company for a day. Scheduled was an inspection tour, luncheon, and a program followed by an inspection of an industrial gas equipment exhibit.

This meeting was the result of the outstanding success of similar meetings held annually by a New England utility, which are highly recommended as a direct means of cementing customer relations.

In the morning, the guests toured the company's main gas plant in West Conshohocken, Pa. The principal points of interest were the gas reformation plants where, in Girdler continuous catalytic and U. G. I. cyclic catalytic reforming equipment, natural gas is cracked and reduced in Btu value. When exact proportions of this gas are then mixed by means of Askania equipment with straight natural gas, the resulting product for distribution has an 801 Btu value.

Company engineers conducted small groups through the plant so that the operations could be explained. At the end of the tour, many guests were amazed at the work necessary to get gas to ultimate customers.

A formal luncheon was held at Bungalow Inn, near Norristown, following which there was a short program. The guests had ample time to inspect the display of industrial gas equipment on two floors of the Inn. Many pieces of equipment were connected to gas lines so that actual operation of burners, mixers and controls could be demonstrated.

The luncheon program was opened with a welcome by Robert C. LeMay of Selas Corp. of America, Dresher, Pa., who is chairman of the Gas Equipment Guild, a local organization of industrial gas equipment manufacturers and agents. Next, F. T. Brooks, sales manager of Philadelphia Electric's industrial department, briefly traced the history of his company's industrial business to its present large size and stressed the importance of industrial gas customers.

The speaker of the day, C. S. Stackpole, managing director of A. G. A., was then introduced. Mr. Stackpole pointed out the value of a meeting of this type, saying that having customers and suppliers get together informally does more to promote industrial understanding and turn the tide of a recession than any efforts by government.

Mr. Stackpole stated that the gas industry is always going forward to meet the challenge of high-speed production lines, by designing and developing gas equipment that can keep pace with production schedules. Research by the gas industry has produced new techniques to speed up heat transfer and other means of producing a better product at lower cost, he added.

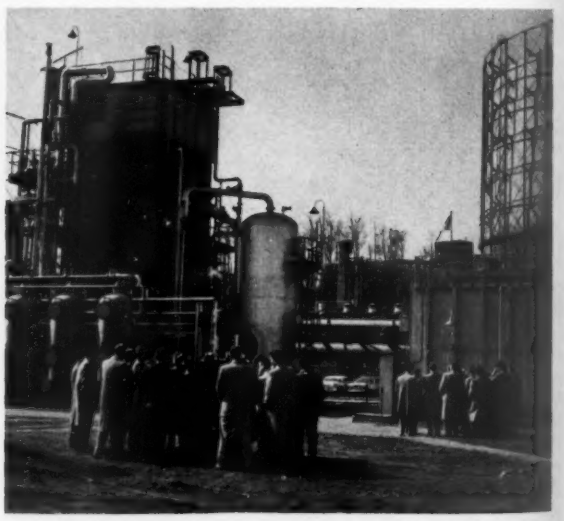
The new giant looming over the industrial horizon is air conditioning, said Mr. Stackpole. He told the luncheon group that in many cases it is already a "must" for worker comfort and product protection. In some instances it may be part of union demands, as has already happened in some sections of the country. Air conditioning in manufacturing plants is going to be vital in the future, Mr. Stackpole said, and the gas industry is prepared for this by having available now gas equipment to meet the demands for any tonnage. He cited the many installations now in operation whose cooling load is measured in thousands of tons.

Then followed an inspection of the industrial gas equipment displayed by 13 manufacturers or agents representing 28 lines of equipment.

The exhibitors were: Bryant Air Conditioning Corp.; J. V. Calhoun Co.; John P. Clark Co.; Day Engineering Co.; Porter Hurd; Mears-Kane-Ofeldt, Inc.; Ronac Corp.; Ruud Manufacturing Co.; Selas Corporation of America; A. O. Smith Corp.; Thermal Equipment Co.; John Wood Co.; and W. Wirt Young & Associates, Inc.

Utilities contemplating get-togethers with industrial gas customers will find equipment manufacturers or their local agents highly cooperative in making these gatherings a success.

Shown are (l. to r.): R. C. LeMay, Selas; D. J. Mosshart, Westinghouse; F. T. Brooks, Philadelphia Electric; S. H. Widdicombe, Welding Engineers; C. S. Stackpole, A. G. A.; F. C. Shermer, Philadelphia Electric



Industrial gas customers of Philadelphia Electric visit Conshohocken gas plant. At left is Girdler continuous catalytic reforming furnace, and in background are holders for reformed gas to be mixed with natural gas

PGA holds annual mid-year sales conference in Philadelphia

MEMBERS of the Pennsylvania Gas Association and their guests at the association's Mid-Year Sales Conference in Philadelphia, Jan. 31, were told that the gas industry has it sights set on a record year. This general statement of optimism was backed up by announcement of record advertising and promotional programs, and the entry into the active gas merchandising field by a number of top appliance manufacturers.

Highlighting the session was the group's presentation of a plaque to the members of the Gas Equipment Manufacturers Committee, honoring an outstanding supporting advertising job. The presentation was made by Willard E. Colvin, chairman of the association's Sales Promotion Committee, in behalf of sales personnel of PGA member companies. It was accepted by William G. Hamilton, Jr., president of the American Meter Co., in behalf of the GEM participating companies.

The theme of the meeting was "Sales Will Be Great in '58" and the individual speakers amplified this theme with discussions of "Great Products," "Great Preparation," "Great Promotions," and "Great Enthusiasm."

In opening the meeting C. S. Stackpole, managing director of the American Gas Association pointed out that the many new features on practically all gas appliances and the increased merchandising and promotion program by the entire industry should create an upswing in sales in 1958. He reviewed many of these new features and urged the sales representatives present to emphasize these features in selling the new appliances. He also cited the very substantial increase and acceptance for gas dryers in all parts of the country and suggested special sales attention be given to the present washer-dryer combination.

At PGA sales conference, W. E. Colvin (l.), chairman of PGA Sales Promotion Committee, presented plaque honoring GEM committee to W. G. Hamilton Jr. of American Meter. At right is Mrs. America

Christy Payne, Jr., vice-president, Peoples Natural Gas Co., and a member of A. G. A.'s General Promotional Planning Committee, reported to the group the increased activity which should result from the increased backing for A. G. A. advertising in 1958. He particularly referred to the advertising cooperation which is being provided by RCA-Whirlpool since its acquisition of the gas refrigerator. He also detailed the matters that had been discussed in the General Promotional Planning Committee's meeting which had been held in New York on the two preceding days.

Jeff Coates, president, Professional Sales Training Co., discussed the subject of "Great Preparation for Selling Gas Appliances." In a down-to-earth talk, Mr. Coates pointed out that the successful man needs four attributes —fortitude, a restlessness which will not permit him to be satisfied with anything less than his maximum ability to produce, eagerness to learn, and the ability to evaluate all of the information made available to him so that he can choose the sales points most likely to influence the potential customer.

The closing speaker was J. Roger Deas, American Can Co., on the subject of "Great Enthusiasm."

Three companies seek to develop large underground storage area

THE Leidy and Tamarack gas production areas in north-central Pennsylvania will be developed into a large underground gas storage area if the Federal Power Commission approves a request recently filed by three companies. The companies cooperating in the $25,167,000 project are New York State Natural Gas Corp., Pittsburgh, Pa.; Transcontinental Gas Pipe Line Corp., Houston, Texas, and Texas Eastern Transmission Corp., Shreveport, La.

New York Natural, a subsidiary of Consolidated Natural Gas Co., will have a 50 per cent interest in the undertaking and will construct and operate the facilities for the benefit of all three partners. Each of the other firms will have a 25 per cent share.

The area to be developed is comprised of 14,100 acres in Clinton and Potter counties. About 13,000 acres lie in what is known as the Leidy gas field and the remainder in Tamarack gas field to the east and south of Leidy field.

Ultimate capacity of the storage area will be 105.6 billion cubic feet of natural gas. Of this amount, about 45 billion cubic feet will be cushion gas.

U. S.-Canada pipelines prospects excellent, says FPC's Connole

WILLIAM R. CONNOLE, Federal Power Commissioner, believes the "prospects are excellent" for the construction of international pipelines between the U. S. and Canada, despite the political upheaval in Canada which brought the downfall of the liberal government over the pipeline issue.

Speaking before the convention of the American Society of Civil Engineers Feb. 24, Mr. Connole said that his optimism is based on his confidence that cordial and friendly relations between Canada and the U. S. will continue.

"I believe," he said, "this is the strongest indication and soundest basis for judgment that the ultimate conclusions on the policy of construction of international pipelines will coincide with the best interests of both Canada and the U. S."

The international pipelines under consideration would provide to the U. S. natural gas from newly discovered reserves in northwestern and western Canada.

One route proposal would call for a pipeline entering the U. S. at Emerson, Minn. It would provide service to industries in Chicago, among other cities. Another would be a pipeline expansion to Montreal, thence possibly across the border into New York State and other eastern points.

Mr. Connole said that both the United States and Canada are now undertaking investigations of the pipeline to serve their own interests.

He also added that he expected eventual satisfactory agreement between the two countries, and explained that it is possible that a joint commission could be set up by both countries to consider common problems. As he envisioned it, this body might even supervise and regulate international aspects of border crossing pipelines.

A.G.A. announces new publications issued during March 1958

The following publications are available from the Order Department at A. G. A. Headquarters; the one listed under Laboratories is also available from A. G. A. Cleveland Laboratories. When requesting any of these publications, please mention the Bureau or Department under which it is listed.

ACCOUNTING

• **Financial Reporting Practices and Trends as Disclosed by an Analysis of the Annual Reports to Stockholders of 56 Gas and Electric Companies for the Years 1954 Through 1956.** Free of charge.

HOME SERVICE

• **Hitch Your Wagon to a Star—Home Service.** Available at 10 cents a copy.

INDUSTRIAL & COMMERCIAL

• **There Is This to Know About Industrial and Commercial Air Conditioning.** Question-and-answer type folders available at $12.50 per hundred.

• **Air Conditioning Proposal Folder.** Available at $12.50 per hundred.

• **Complete Year 'Round Air Conditioning with Gas.** Folders available at $8 per hundred.

LABORATORIES

• **Directory of Approved Appliances and Listed Accessories, January 1958 semi-annual issue.** Subscription rate is $2 a year.

PUBLIC INFORMATION

• **What Everyone Should Know About the Advantages of Investor-Owned Gas Companies.** Cost is 10 cents a copy for 1-100 copies, 9 cents a copy for 101-2000 copies, and 8 cents a copy for larger quantities.

STATISTICAL

• **Monthly Bulletin of Utility Gas Sales, January 1958.** Free of charge.

• **Quarterly Report of Gas Industry Operations, Fourth Quarter 1957.** Free of charge.

UTILIZATION

• **Gas Utility Distribution Systems.** This bulletin (Special Hazards Bulletin Z-103) is available at 12 cents a copy.

Highlights of cases before the Federal Power Commission

Bureau of Statistics, American Gas Association

Certificate cases

● **Arkansas Louisiana Gas Co.** received FPC approval of its budget-type application to construct additional facilities to connect new natural gas supplies and to make sales to industrial customers. The cost of any individual project is limited to a maximum of $500,000, and the over-all cost is not to exceed $2.3 million for the year.

● **Cities Service Gas Co.** has been authorized by the FPC to construct and operate a 7,000 horsepower compressor station and 24 miles of pipeline in Kansas. The authorization included abandonment and reclamation of 18,750 horsepower compressor units in Kansas, Oklahoma, and Texas. The over-all cost of the project is estimated at $3.6 million and will make gas from the Elk City Storage Field available for peak day deliveries.

● **El Paso Natural Gas Co.** has filed an application with the FPC requesting authority to construct 59 miles of pipeline, a dehydration plant, field lines and other facilities at an estimated cost of $4.1 million. These facilities will add 50 million cubic feet of gas per day for sale to present and existing customers in Texas, New Mexico, Arizona, and California. In another application, the company received FPC authority to construct and operate additional purification and dehydration facilities, including an additional 4,050 horsepower at the McElroy-Crane plant, and other appurtenant facilities at a total cost of $2.4 million. Temporary authority had been granted for these facilities on Nov. 29.

● **Gulf Interstate Gas Co.** filed a budget-type application with the FPC requesting authority to construct natural gas facilities at an estimated cost of $2 million, with no single project to cost in excess of $200,000. These facilities are to enable the company to take natural gas purchased by United Fuel Gas, and transport it for redelivery to United Fuel Gas in Kentucky.

● **Hope Natural Gas Co.** was granted temporary authorization by the FPC to construct and operate a measuring station, field lines, metering facilities and to drill wells in the Blackwater Anticline Gas Field of West Virginia at an estimated cost of $949,000. These facilities will be used to sell and deliver up to 90 million cubic feet of natural gas daily to the Atlantic Seaboard Corp.

● **Kentucky Gas Transmission Corp.** filed an application with the FPC requesting authorization to construct and operate about 21 miles of pipeline paralleling an existing line in Kentucky, and directly opposite Cincinnati, Ohio. This project, estimated to cost $2.2 million, is designed to increase system capacity by 32.8 million cubic feet of gas daily to meet the increased peak day demands anticipated for the Cincinnati area during the 1958-59 winter season.

● **Lone Star Gas Co.** is seeking FPC authorization to convert a small partially depleted oil field in Texas to a storage field, and proposes to construct a compressor station, an injection and withdrawal system, and related facilities at an estimated cost of $741,000. These facilities will be used to render more adequate service to customers in the Wichita Falls, Texas, area.

● **Manufacturers Light and Heat Co.** filed an application with the FPC requesting authorization to construct and operate about 21 miles of transmission line and a metering and regulating station at a cost of nearly $1.2 million. These facilities will be used to serve existing customers in Ohio and West Virginia and will serve a new customer, the Olin Mathieson Chemical Corp.'s aluminum plant in Ohio. Part of the cost, $457,000, will be borne by Olin Mathieson.

● **New York State Natural Gas Corp.** is seeking FPC authorization to transfer its interest in the Leidy and Tamarack Fields to Texas Eastern Transmission Corp. and Transcontinental Gas Pipe Line Corp. for development as storage pools. The initial development cost will be approximately $12 million, and the ultimate cost of developing both fields will reach $25 million.

● **Southern Natural Gas Co.** has applied to the FPC for authority to construct 12.5 miles of pipeline and a measuring station at a cost of $887,000. These facilities will enable the company to take natural gas produced in the Tantine field of Louisiana up to a maximum of 13.5 million cubic feet daily. In another application, designed to tap additional reserves in southern Louisiana, the company is requesting FPC authorization to construct 45 miles of supply laterals and to add 2,660 compressor horsepower to existing stations, at an over-all cost of $4.1 million. These facilities will permit elimination of about 11 miles of line authorized in a previous FPC action, saving an estimated $514,000.

● **Texas Eastern Transmission Corp.** has received temporary authority from the FPC to construct and operate a 6,600 horsepower compressor station near Blessing, Texas, at an estimated cost of $2.4 million. The new station will permit increased operating flexibility and positive control over line pack by providing intermediate compression along the 357 mile line between McAllen and Mont Belvue, Texas.

● **Transcontinental Gas Pipe Line Corp.** placed an application with the FPC seeking authority to construct 145 miles of purchase laterals, and appurtenant facilities

to tap additional gas supplies in La Fourche and St. Charles Parishes, La., at an approximate cost of $14 million. Another application by the company seeks to install an additional 10,000 compressor horsepower in main line stations. These facilities, costing about $3 million, will provide delivery of up to 22 million cubic feet daily to Atlanta Gas Light Co. In still another application before the FPC, the company proposes to construct 556 miles of transmission line, 345 miles of purchase laterals, and 38,580 compressor horsepower to connect new gas supply sources in southern Louisiana, Texas, and off-shore Louisiana. This latest project, to cost $136 million, will render additional firm service totaling nearly 201 million cubic feet daily to 27 existing customers, and provide 181 million cubic feet daily of proposed new storage service for eleven customer companies. In still another FPC action, the company was granted temporary authority to construct four purchase meter stations and 23 miles of purchase laterals in Texas. These facilities, to cost $705,000, will be used to receive natural gas purchased in the Pleasanton and South Pleasanton areas.

● **United Gas Pipe Line Co.** has been authorized by the FPC to construct and operate nearly 203 miles of pipeline, paralleling an existing line between New Orleans, La., and Mobile, Ala., at an estimated cost of $33.8 million. These facilities will enable the company to supply the ever increasing requirements of present customers from south Louisiana supply sources, which will, in part, replace other declining sources of supply. In another FPC action, the company has had its budget-type application authorized with expenditures limited to $3 million in the aggregate and $400,000 for each single project.

Rate cases

● **Panhandle Eastern Pipe Line Co.** has applied to the FPC for a $12 million, or 12.7 per cent, annual wholesale natural gas rate increase. The proposed increase would affect 58 wholesale customers in Illinois, Indiana, Kansas, Michigan, Missouri, and Ohio, and would be in addition to a $7.1 million increase currently in effect subject to refund. In support of the proposed increase, the company cited increased wages, salaries, taxes, and purchased gas costs. Taking note of higher capital costs, the company claims a 7 per cent return in lieu of the current 5¾ per cent return. Also included is the commodity value of company produced gas.

The Federal Power Commission released the following statistics relative to actions taken during January 1958 regarding rate filings of independent producers of natural gas:

SUMMARY OF INDEPENDENT GAS PRODUCER RATE FILLINGS—JANUARY 1958

	Number	Annual Amount
Tax rate increases allowed without suspension	2	$ 78
Other rate increases allowed without suspension	100	248,089
Rate increases suspended	63	776,423
Total rate increases	165	1,024,590
Tax rate decreases allowed without suspension	4	1,372
Other rate decreases allowed without suspension	—	—
Total rate decreases	4	1,372
Total rate filings (all types)	538	—
Total rate filings acted on from June 7, 1954, to Jan. 31, 1958	27,549	—
Rate increases disposed of after suspension (during January)	—	—
Rate increases suspended and pending as of Jan. 31, 1958	1,103	$50,863,766

In other FPC actions, Carolina Natural Gas Corp., Hickory, North Carolina, and Mountain Gas Company of Kushequa, Pennsylvania have been exempted from regulation under the Natural Gas Act pursuant to the terms of the Hinshaw Amendment. This makes a total of 114 companies which have been exempted since the Hinshaw Amendment became effective March 27, 1954.

Round-up of utility annual reports for the year 1957

• **Citizens Gas and Coke Utility** reports that in 1957 its gas revenues totaled over $11.6 million, as compared with $10.4 million last year. Operating expenses totaled $9.4 million. Gross income totaled over $2.5 million, and net income after bond redemption requirements and amortization of gas conversion costs came to over $1.4 million. The company had 151,878 customers on Dec. 31. The report notes that the company won two A. G. A. awards during the year—the Accident Prevention Award and the Safety Achievement Award.

• **Connecticut Light and Power Co.** announces gas revenues of $9.4 million. Gas revenues are about 19 per cent of total revenues. The utility's net income for 1957 was $11.2 million, as compared with $10.6 million in 1956. Gas customers rose to 405,000, and gas sales rose to 8.9 trillion cubic feet.

• **Dayton Power and Light Co.'s** operating revenues from gas sales were nearly $26.6 million, or about $2 million higher than in 1956. Gas sales rose about 2.7 billion cubic feet from the previous high of 37 billion cubic feet. Number of gas customers rose also, to 182,703. Earnings showed a decline from the all-time high of 1956, partly due to delays encountered in a request for a gas rate increase in Dayton, and partly due to a decline in industrial sales during the first 10 months of the year.

• **Delaware Power & Light Co.'s** gas operating revenues for 1957 reached nearly $6 million, an increase of $.6 million over 1956. Although all classes of gas business showed substantial improvement, increased sales to industrial customers showed the greatest improvement. Wider use of gas for both home and commercial space heating also contributed strongly to the total increase in gas sales of 21.6 per cent. Since major gains in gas sales were at the lower increment prices in the company's rate schedules, total gas revenues increased by only 11.3 per cent.

• **Long Island Lighting Co.** indicates that its gas business increased substantially in 1957. Total sendout was 11.8 billion cubic feet, and revenues from sales of gas totaled $24 million. This was about $1.8 million more than the previous year. Gas space heating installations increased 45 per cent over 1956.

• **Niagara Mohawk Power Co.** and subsidiaries report that in 1957 gas revenues rose to a record $51.2 million, about $1.1 million higher than in 1956. This figure is about one-fifth of the company's total revenues. Total sales of gas were 44.7 billion cubic feet. Gas customers increased by about 7,500, reaching a new high of 344,000 at the year's end. Nearly half of these customers are gas heating customers.

• **Northern Illinois Gas Co.'s** 1957 annual report shows a 6 per cent increase in total gas operating revenues, for a total of $84.6 million. Operating expenses and taxes left a net operating income of nearly $12 million, and a net income of $9.7 million. This compares favorably with the net income of $9.3 million in 1956. Gas sold totaled 1.2 billion therms, and customers numbered 597,728. This is the second largest annual increase in customers in the company's history.

• **Panhandle Eastern Pipe Line Co.'s** statement of earnings shows operating revenues from gas sales up $4 million for a total of over $113.4 million. Total operating revenues were $117 million, gross income was $23 million, and net income was $18.9 million.

• **Philadelphia Electric Co.** reports gas revenues of $32.8 million, which is 13.9 per cent of total revenues. This figure is an increase of $.7 million over 1956. Gas output rose to a record 27.5 billion cubic feet, and the number of gas customers rose to about 218,000. About 45 per cent of these have gas house heaters.

• **Southern Indiana Gas and Electric Co.** showed gas revenues of nearly $5 million, or about 26 per cent of total revenues. Total gas sales reached and passed 7 billion cubic feet, and the number of customers rose to 43,386. Over 70 per cent of these used gas space heating.

• **Transcontinental Gas Pipe Line Corp.** reports that 1957 natural gas deliveries of nearly 283 billion cubic feet were the largest in the company's history. Operating revenues were $96.8 million, an increase of 10 per cent. Net income rose over $3 million, for a total of over $15 million.

Northern Illinois announces recent appointments

Howard Ford

HOWARD E. FORD has been elected vice-president of the Northern Illinois Gas Co. He will continue his present duties as assistant to the president of NI-Gas Supply. In his new post, he will be responsible for the planning and procurement of overall gas supply requirements.

Four employees have been appointed assistant vice-presidents of the utility, newly-created positions with the following responsibilities: Loren W. Tuttle, operation; Charles F. Henness, divisions; Orville E. Fry, industrial relations; and Randall A. Lightbody, management administration.

Other current key appointments made by Northern Illinois Gas included the appointment of Mathew G. Markle to succeed Mr. Tuttle as manager of operation; C. Joseph Gauthier to fill the vacant assistant manager of operation post; Donald B. Miller to succeed Mr. Gauthier as district manager of the utility's Blue Island-Kankakee district; Robert J. Eby, to replace Mr. Miller as commercial manager of the company's central division; and L. Raymond Billett, to succeed Mr. Eby as district operating superintendent in the Crystal Lake area.

In addition Walter J. Daunheimer has been promoted to supervisor of industrial relations, and George T. Jones to supervisor of management development.

Elect Lang, Titsch

JOSEPH H. LANG and Herbert A. Titsch have been elected assistant vice-presidents of the Ohio Fuel Gas Co. Mr. Lang, assistant manager of the transmission division of Ohio Fuel, will become executive assistant to Clyde C. Phillips, vice-president in charge of transmission. Mr. Titsch, who has been superintendent of the civil engineering and map department for Ohio Fuel, will become executive assistant to W. E. Ferguson, vice-president in charge of production and storage. Ralph R. Wagstaff, chief draftsman and engineer in the civil engineering and map department, will succeed Mr. Titsch as superintendent. All three men are long-time employees of Ohio Fuel. Mr. Lang started to work for the gas company 43 years ago, Mr. Wagstaff 34 years ago, and Mr. Titsch 31 years.

Personal and otherwise

Tyler named manager at Norwood

THE NEW ENGLAND Electric System announces the appointment of John H. Tyler as vice-president and manager of Norwood Gas Co., and of Malcolm C. Macauley to succeed Mr. Tyler as assistant manager of North Shore Gas Co.

Mr. Tyler has a B.A. degree from Harvard College and an LL.B. degree from Northeastern University. He joined New England Electric in 1930 as a clerk with the service company.

Since that time he has held several positions with various system companies including traveling auditor, chief clerk, and chief accountant.

In 1952 he was appointed manager of the former Berkshire Gas Co., and two years later became manager of Wachusett Gas Co. In 1955 he was appointed assistant manager of North Shore Gas.

The new assistant manager, Mr. Macauley, joined New England Electric in 1935 as a distribution clerk with the old Gloucester Gas Light Co. In 1946 he was named assistant superintendent at Gloucester, and became manager in 1952.

The following year Mr. Macauley joined Norwood Gas as assistant manager. In 1954 he was named manager, and two years later became a vice-president and director there.

Long Island Lighting elects Duffy and Wakeman senior vice-presidents

EDWARD C. DUFFY and Howard B. Wakeman have been elected senior vice-presidents of Long Island Lighting Co.

Mr. Duffy has been associated with the company for 16 years. His most recent position has been that of vice-president and his responsibilities include engineering, construction, and electric and gas operations.

Mr. Wakeman has been with the company for over 30 years. His most recent position has been that of vice-president, and his responsibilities include community relations and commercial affairs.

Elected as vice-presidents of the company were three former assistant vice-presidents: Samuel W. Horsfield, Charles Y. Osburn and William Welch, Jr.

Mr. Horsfield is in charge of gas operations and has been associated with the company for 30 years; Mr. Osburn, in charge of employee relations, has been with the company for 24 years; and Mr. Welch, in charge of engineering, has been with the company for 16 years.

Also announced by the company was the election of James F. Daly, assistant controller to the newly created office of associate controller. Mr. Daly has been with the company for 37 years. Mr. Daly, in addition to his post as assistant treasurer of the American Gas Association, is active in A. G. A.'s Accounting Section.

He is a member of the Accounting Section Managing Committee, past coordinator of the General Activities Group, and past chairman of the Accounting Employee Relations Committee.

Michigan Consolidated names Brashear, Monaghan, Mullins, Schroeder

ALVAN H. BRASHEAR has been elected a vice-president and manager of operations, and Peter J. Monaghan has been elected a director of Michigan Consolidated Gas Co. In addition, the company has announced the appointment of Albert F. Mullins as assistant general manager of the Grand Rapids district, and Albert G. Schroeder as consultant to the general manager.

Mr. Brashear joined Michigan Consolidated as a cadet engineer in 1923, following graduation from the University of Michigan as a chemical engineer. He has worked in all phases of natural gas distribution operations including service shop, street, meter and pressure departments. He became assistant manager of operations in 1953, and manager of operations last November.

Mr. Monaghan has practiced law in Detroit since his graduation from the University of Michigan Law School in 1934, with the exception of two years as assistant attorney general of Michigan. He is senior partner in the law firm of Monaghan & Monaghan & Crawmer.

In addition to his new post, Mr. Mullins will continue to serve as assistant treasurer of the company, a post he has held since the Grand Rapids Gas Light Co. became part of Michigan Consolidated in 1938. He joined Grand Rapids Gas Light in 1924 following graduation from Michigan College of Mining and Technology. He served as a cadet engineer in the production department, and rose through the operating divisions to become assistant treasurer in 1929 and treasurer in 1935.

Mr. Schroeder, with the utility for 57 years, has served as assistant general manager and assistant secretary since 1938. He will retain the latter post. Mr. Schroeder began his utility career before the turn of the century, reading meters during summer vacations while in school. He became a full-time employee in 1901, and served as purchasing agent and secretary before being elected vice-president and secretary of Gas Light in 1934.

Messrs. Brashear, Mullins, and Schroeder are members of the American Gas Association. Mr. Schroeder served as secretary of the Michigan Gas Association for 35 years.

Roberts retires from Mountain Fuel; Fidlar and Allen advanced

J. D. ROBERTS retired on March 1 as vice-president in charge of distribution for Mountain Fuel Supply Co., Salt Lake City, but will remain on as a director. Upon his retirement, M. M. Fidlar was assigned additional management duties as senior vice-president, and J. W. Allen was appointed vice-president in charge of distribution.

Mr. Roberts first went to Utah 30 years ago, on loan from Lone Star Gas Co. to study the feasibility of piping natural gas into the state. He was assigned to make market surveys and engineering studies relating to the proposed project. Impressed with the potential of the Utah operation, he stayed on with his new employers when the pipeline project materialized and became vice-president of the distributing companies when the new system arrived. When these firms consolidated in 1935 to form the present Mountain Fuel Supply Co., he was elected vice-president and director.

Mr. Fidlar, who has been supervising Mountain Fuel's exploration, production, and transmission activities at Rock Springs, will transfer his headquarters to Salt Lake City. He earned a B.A. and advanced degrees from the University of Indiana, and joined Mountain Fuel in 1943 as senior geologist. He was named chief geologist in 1945, manager of the exploration division in 1951, vice-president in 1954, and a director in 1955.

Mr. Allen entered the gas industry in 1925, when he joined Lone Star Gas Co. He joined Mountain Fuel predecessor companies in 1929, serving as district agent, warehouseman and purchasing agent, and supervisor of service before being named assistant superintendent of distribution in 1936, superintendent of distribution in 1939, and manager of distribution in 1951.

M. M. Fidlar

J. W. Allen

Mr. Allen succeeds Mr. Roberts as company delegate to the American Gas Association.

Williams succeeds Zachary as Public Service vice-president

RUSSELL H. WILLIAMS has been elected vice-president in charge of public relations at Public Service Electric and Gas Co. He succeeds Robert A. Zachary, who retires April 13 after more than 28 years in public relations work with the company.

Mr. Williams has been executive assistant since 1942. He started with Public Service in 1922, has held various secretarial positions in the law department of the company, and was assistant secretary to a past president of Public Service.

Mr. Zachary, who became associated with Public Service as executive assistant in the company's general office in Newark, has been vice-president in charge of public relations since 1939. In this capacity he has also had charge of the publicity and advertising activities of the company.

Mr. Zachary first went to work in 1904 as an office boy in the Washington, D. C., office of the *Brooklyn Daily Eagle*. He worked up to assistant Washington correspondent of the *Eagle* and was in the employ of that newspaper for 17 years. From 1917 until 1921, in addition to working for the *Eagle*, he was assistant to the Washington correspondent of *The Newark News*. In October, 1921, he became secretary to a U. S. senator, and managed his election campaign.

Mr. Zachary has been active in various national utility groups, including the American Gas Association.

OBITUARY

K. H. Hesselberg

incinerator engineer, died March 11 at the age of 61.

He entered the incinerator industry in 1922, as chief engineer of the Goder Incinerator Co. He was well known for his engineering of municipal incinerator installations in Milwaukee and Fergus Falls, Minn., Portsmouth and Grafton, W. Va., Aurora, Ill., and other cities.

He spent his latter years modifying Goder's Brule FG4 line. He was also the author of various articles on incineration.

Newell E. Loomis

72, consultant to the president of Michigan Consolidated Gas Co., died March 4. He had served the utility as vice-president and sales manager from 1949 until 1953.

Mr. Loomis would have completed 50 years with Michigan Consolidated next August. He joined the company in 1908 as a clerk when gas lighting was still big business. Coke was a by-product of gas manufactured from coal and he became superintendent of coke sales in 1916.

He rose through the sales offices to become assistant sales manager, merchandise sales manager and, in 1946, Detroit district sales manager. In 1949 he was elected a vice-president of the utility and in 1953 was appointed consultant to the president.

He had served on various committees of the American Gas Association, the Michigan Gas Association, and the Michigan Economic Development Commission.

He is survived by his widow, Viola, and a daughter.

H. W. Francis

director of purchasing and a company director of the Canadian Western Natural Gas Co. Ltd. and its associates, Northwestern Utilities, Ltd. and Canadian Utilities, Ltd., died suddenly Feb. 19. He was 69.

Mr. Francis was "Mr. Polo" to horsemen in that part of the country for almost four decades, and did more to keep polo alive in western Canada than probably anyone else. An ardent and expert player, Mr. Francis played for 32 years and eventually retired to the role of umpire.

Born in London, England, and educated there and at Cambridge University, Mr. Francis went to Canada in 1911 and entered the lumber business. In 1913 he became secretary-treasurer of the Georgetown Collieries at Canmore, a British company with head offices in London.

Following Army service and a brief interval in the pulp industry, Mr. Francis transferred to the Department of Finance. In 1928 he joined the Canadian Western Natural Gas Company Limited as purchasing agent for the company and the two associate companies. In 1949 he was made a director of Northwestern Utilities, and appointment as director of the other two companies followed in May 1956.

He was responsible for the organizing and setting up of the purchasing departments for the three companies, starting in 1928.

Walter Anderson

Boston Gas Co., died suddenly on March 6. He had been with the company since his graduation from the Massachusetts Institute of Technology in 1924. In 1937 he was appointed superintendent of the company's industrial division and served in that capacity until the time of his death. He made many major contributions in the field of industrial gas utilization.

Mr. Anderson was a past chairman of the industrial division of the New England Gas Association, and was highly active in A. G. A., having served continuously on committees of the Industrial and Commercial Gas Section. The A. G. A. committee posts he held included chairmanship of the Food Service Equipment Committee, the Committee on Dealer Cooperation, and the Sales Training Committee. He also served on the Approval Requirements Committee and the Advertising Committee. He was a charter member of the Industrial and Commercial "Hall of Flame."

Names in the news—a roundup of promotions and appointments

UTILITY

Avery Mays, general contractor and developer of real estate projects, has been elected to the board of Lone Star Gas Co.

Robert R. Beardsley has been promoted to industrial and commercial sales manager for Washington Natural Gas Co. He joined the company in 1946, and has since served as an industrial utilization engineer and industrial sales supervisor.

After 50 years of service to Southern California Gas Co., **Tom Terry** has retired from his job as trucking supervisor. Mr. Terry joined the company as a messenger, with the task of pedalling his bicycle twice daily from the Santa Fe building to downtown Los Angeles. At the time of his retirement, he was still working at the same location.

Pacific Gas and Electric Co. announces the promotions of **Edward F. Sibley** and **Stanley O. Blois.** Mr. Sibley, formerly senior gas distribution engineer, has been promoted to supervising administrative engineer; he has been with PG&E for 21 years. Mr. Blois, formerly industrial power engineer, has been promoted to director of commercial sales.

L. W. Folsom, senior geologist for Mountain Fuel Supply Co., has been named manager of the company's exploration division. **W. W. Skeeters,** also senior geologist, has been named chief geologist. Active direction of the company's exploration division was formerly supervised by **M. M. Fidlar,** vice-president, who was transferred last month to company headquarters as senior vice-president and given additional duties.

New York State Natural Gas Corp. announces the following changes. **William D. Buchanan** has been named to head the newly formed eastern division, with headquarters in Utica, N. Y. **Roy A. Doman,** chief engineer, has been appointed manager-engineering. **Lawrence H. Riddile** has been appointed superintendent, field, Oakford district, and **W. Park Steele** has been appointed superintendent, stations, Oakford district. **Nelson A. Ingersoll** has been named superintendent of the Harrison district, succeeding **John E. Stuchell** who moves to another assignment in Pittsburgh, Pa.

At Ohio Fuel Gas Co., **Harold B. Cornwell** has been promoted from Athens district special representative to assistant district manager.

David M. Heskett, who has been with Tucson Gas, Electric Light and Power Co. since 1952, was named assistant superintendent of the gas department.

J. R. Brady has joined Northern Natural Gas Co. as reserves engineer in the reserves and availability section. He was formerly with American Louisiana Pipe Line Co. and Michigan Consolidated Gas Co.

Morgan E. Kronk has been appointed chief draftsman for Peoples Natural Gas Co. and **Paul E. Smith** has been appointed assistant manager of the company's Glenshaw service area.

MANUFACTURER

Dover Corp. announces that **F. W. Charter** has been made chairman of its Peerless Manufacturing Division and **Thomas D. Bromley** succeeds him as president. They will retain their positions as president and vice-president, respectively, of another Dover subsidiary, Dura-Vent Corp. Mr. Carter has been president of Peerless since 1933. Mr. Bromley has served the division since 1939, as vice-president since 1948. Also announced is the appointment of **Robert B. Stone** as vice-president-sales of the division.

Edward H. Heller, prominent investment banker, and **Jan Oostermeyer,** former president of Shell Chemical Corp., have been elected to the board of Siegler Corp.

At Cribben and Sexton, **William S. Gauthier** has been elected vice-president, manufacturing, and **W. C. Wilkinson** has been elected assistant vice-president, sales.

The election of **Richard C. Wright,** chief engineer of Iron Fireman Manufacturing Co., as vice-president, has been announced. He started with the company in 1925, and has been in charge of the research and development program of the heating division since 1951. Also at Iron Fireman, **Jack Jordan** has been appointed assistant to the president.

Three sales executives have been promoted by Norge Division of Borg-Warner Corp. **Harold P. Bull,** formerly vice-president in charge of distribution, has been appointed vice-president of sales. **Walter C. Fisher** has been named director of distribution. **James D. Dougherty** has been named national field sales manager.

James O. Kyle has been appointed northern California district manager and **Charles Q. Giffin** southern California district manager of the Metalbos Division of William Wallace Co.

Maytag Co. announces the following changes in its organization. **Morris Trout** has been promoted to manager of parts distribution, and **Clifford Pennock** has been promoted to manager of products distribution. At the New Orleans branch, **Howard F. Whitney** has been promoted to regional manager for south central Louisiana. **Stanley H. Gayeski** has been named regional manager for east central Texas, southwestern Arkansas, and northwestern Louisiana, with headquarters in Shreveport, La. **Joseph H. Pfeister,** who has been a Maytag field sales employee for 31 years, has retired as regional manager of four counties in New York state; he will be succeeded by **Edward Shea Jr.** New regional manager in the Utica, N. Y. area is **James K. Ryan,** and new regional manager in areas in Pennsylvania and West Virginia is **Earl W. Neppl.**

W. M. Hollingsworth is the new manager of special products and services for Temco, Inc. **T. R. Brock** is the new assistant sales manager of that company.

Vincent J. Guarriello has been appointed assistant sales manager by G. S. Blodgett Co.

New manager of Worthington Corp.'s new product and marketing planning department is **Paul Des Jardins.**

Frederick A. Sincock has been named manager for domestic water heaters manufactured by the plumbing and heating division of American-Standard.

Ralph Heindl has been appointed Chicago branch manager of A. O. Smith Corp.'s product service division, with responsibility for the divisions total service operation in the North Central U.S.

The recent appointment of **William F. Steiner** as assistant national sales manager has been announced by Payne Co.

F. J. Hollerbach has been appointed manager of central heating and air conditioning sales at Chattanooga Royal Co.

OTHER

H. Edward Wolf has been appointed president of Erie (Pa.) Natural Gas Co., which owns and operates gas and oil producing properties in Texas, New Mexico, and Pennsylvania.

New manager of the new business division of Stone & Webster Engineering Corp. is **Wilbur S. Roberts Jr.**

William B. Fowler has been named assistant director of the property taxes department of Texas Gas Transmission Corp.

Industrial relations

(Continued from page 18)

After the strike was over, this same employer presented application blanks to seven strikers who applied for jobs that were still vacant. All seven refused to sign the form which they were told was a "new application." The employer therefore refused to rehire the men, contending that his action was justified because some six months earlier the Interstate Commerce Commission had instructed him to secure written applications for employment. He admitted, however, that previously he had not tendered such applications to any but new employees, and that only one of the strikers had engaged in interstate driving.

This time both the court and the board held that the employer had violated the Act. The men had reason to believe that their status as old employees, together with their seniority rights, would be affected by the "new applications," and their refusal to sign them was justified. "Since the company in the past had presented applications only to new employees and the applications here involved were designated as new applications, the company should have explained the effect of such change in the procedure," said the court. The burden did not rest upon the employees to ascertain what the effect of signing would be. The employer was therefore guilty of discriminatorily refusing to reinstate unconditionally the seven returning strikers. He was ordered to reinstate the strikers with back pay from the date they originally requested reinstatement (*NLRB* v. *Lewis,* 58 ALC 134).

Budget $20 million

CONSUMERS POWER Co. will invest more than $20 million in 1958 on expansion and improvement of its natural gas service facilities in outstate Michigan, according to an announcement by President Dan E. Karn. Major gas department projects include further improvement of facilities at the Overisel natural gas field near Allegan, Mich., acquired in 1957, and including pipeline construction to connect this field to the company's gas system. Mr. Karn said that the company has a backlog of some 155,000 requests from customers for natural gas for space heating purposes. The addition of facilities at Overisel enabled the company to grant permits for 20,000 additional space heating customers in the gas service area during the latter months of 1957.

Committee resolution

AT A FEB. 5 meeting in Casper, Wyo., the Executive Committee of the Interstate Oil Compact Commission made a resolution recommending and urging "the passage of the Harris-O'Hara Amendment, so that any apparent conflict between state and federal authority in the field of oil and gas conservation be eliminated." The committee represents 28 member states and three associate members.

Install computer

PEOPLES Natural Gas Co. has installed a "miracle brain"—the Royal McBee LGP 30 electronic digital computer—as an engineering aid. This computer enables the company to evaluate system area supply facilities in a minimum of time. For example, it gives a complete analysis of one of the company's moderate-size plants in a span of only six hours. This analysis can then be used for an evaluation that makes it possible for the company to add new load facilities where needed and to determine best operating pressures. The computer is also valuable in mapping operations. Given the appropriate data, it can determine the area of a parcel. The machine can remember 4,096 segments of information in its operation.

PUAA copy contest

THE 1958 Better Copy Contest, sponsored annually by the Public Utilities Advertising Association, is on its way. This annual contest is open to all gas, electric, and transportation utilities in the U. S., Canada, and Hawaii. The deadline for all entries except annual reports was Feb. 1; the reports deadline was April 1. There are 19 classifications in this year's contest, including those for direct mail, newspaper, radio and television, annual reports, motion pictures, employee magazines and newspapers, employee and consumer booklets, outdoor and truck posters, and window and interior displays. Awards will be presented to the winners at the annual PUAA convention to be held in Pittsburgh, Pa., May 8-9. Chairman of this year's contest is Jack A. Fleming, director of public relations of Canadian Western Natural Gas Co. Ltd. and Northwestern Utilities, Ltd.

New division headquarters

NORTHERN ILLINOIS Gas Co. has opened new division headquarters in Glenview. Construction of the new colonial styled brick office, stores department and service buildings on the 16-acre site in Glenview began late in 1956, and the general move of all operations from outmoded quarters in Evanston was accomplished the night of Jan. 3 without interruption to vital services. Open houses for gas company employees who work at the new headquarters and their families and Glenview civic officials were held two weeks later. The new headquarters houses facilities for administrative, sales, customer service, operating, stores, meter and transportation departments to serve the utility's approximate 107,000 customers located in the north and northwest suburban areas.

Now in production

CRIBBEN AND SEXTON CO. is now in production on a full line of commercial cooking equipment. Peak rate of production to be reached this month will enable output to start catching up with orders. Cribben and Sexton recently entered this field with the acquisition of the commercial cooking division of Magic Chef-Food Giant Markets, Inc.

Slate $9.5 million

THE ATLANTA Gas Light Co. has announced a record construction budget of over $9.5 million for the fiscal year ending this Sept. 30. This is a quarter million dollars more than the previous high of last year. A major part of the money will go to extend service to about 19,000 new customers. Other important items will be the completion of propane storage facilities in Augusta, Rome, Macon and Atlanta, the construction of distribution systems in several new communities, and general improvement of service. In the past ten years, the company's construction expenditures have totaled $55 million. During this decade the number of customers increased from 135,830 to 322,131.

Create Heil-Quaker

CREATION of one of the nation's largest completely integrated home heating and air conditioning companies—the Heil-Quaker Corp.—has been announced by Joseph F. Heil, Milwaukee industrialist who is chairman of the new firm. The new corporation combines the central heating and air conditioning division of The Heil Co., Milwaukee, with the Quaker space heater business formerly owned by the Florence Stove Co. Ownership of the Lewisburg plant of Florence Stove and the Heil central heating and air conditioning division was transferred to Heil-Quaker at a meeting of officers of the three corporations. President of the new corporation is C. W. Milligan, Chicago, former president of the Mira-Cold Corp., Chicago. The other officers, both former Heil executives, are George E. Hochstein, vice-president, and Earl R. Martin, secretary.

CONVENTION CALENDAR

1958

JUNE

1-4 •Institute of Appliance Manufacturers, Annual Convention and Exhibit, Netherland Hilton Hotel, Cincinnati, Ohio.

3-4 •A. G. A.-PCGA Research and Utilization Conference, Ambassador Hotel, Los Angeles, Calif.

11-13 •New England Gas Association, Operating Division, Sheraton Biltmore, Providence, R. I.

11-14 •National Society of Professional Engineers, Annual Meeting, St. Louis, Mo.

23-24 •Michigan Gas Association, Grand Hotel, Mackinac Island, Mich.

24-27 •Canadian Gas Association, Annual Meeting, Manoir Richelieu Hotel, Murray Bay, Que., Can.

JULY

7-11 •National Housewares and Home Appliance Manufacturers Exhibits, Auditorium, Atlantic City, N. J.

SEPTEMBER

3-5 •Pacific Coast Gas Association, Annual Meeting, Benson and Multnomah Hotels, Portland, Ore.

5 •New Jersey Gas Association, Annual Meeting, Spring Lake, N. J.

15-16 •INGAA, The Roosevelt Hotel, New Orleans, La.

17-19 •Southeastern Gas Association, Annual Meeting, Sir Walter Hotel, Raleigh, N. C.

24-27 •Seventh International Gas Conference, Rome, Italy.

OCTOBER

13-15 •A. G. A. Annual Convention, Atlantic City, N. J.

15-17 •Wisconsin Utilities Association, Hotel Schroeder, Milwaukee, Wis.

20-24 •National Safety Council, Chicago, Ill.

21-24 •American Dietetic Association, Philadelphia, Pa. (A. G. A. will exhibit)

22-24 •Air Conditioning & Refrigeration Wholesalers, Annual Meeting, Sheraton-Palace Hotel, San Francisco, Calif.

27-31 •National Metal Exposition, Cleveland, Ohio. (A. G. A. will exhibit)

NOVEMBER

3-7 •National Hotel Exposition, Coliseum, New York City. (A. G. A. will exhibit)

17-20 •American School Food Service Association, Philadelphia, Pa. (A. G. A. will exhibit)

Personnel service

SERVICES OFFERED

Sales Manager—recently associated with Servel, Inc. in a management capacity, available only because of elimination of field selling organization. Twenty years experience at factory level with top name companies. Strong utility background, basically trained in retail work with Philadelphia combination property. Broad experience in the appliance business, with good contacts in Eastern U. S. Engineering background. Salary desired $10,000. **1905.**

Economic and Operational Analysis of business data. Solid experience in analysis, synthesis, and interpretation of data, and design of electronic data processing systems. Supervisory responsibility, M.A. in Economics. **1906.**

Young Engineer—B.S.C.E., desires a career position with a company located in Metropolitan area. Veteran, married. **1907.**

General Superintendent—20 years' experience in gas utility operations, last 12 in natural gas distributions and operations. Interested in affiliating with a natural gas company. College graduate, married, one child. Details upon request. Age 43. **1908.**

Economist, Market Analyst, Executive—consultant with wide business, association and government experience in construction, forecasts, planning, statistics, systems, procedures and methods. **1909.**

Advertising and Marketing Director—over 25 years experience in all phases of planning, budgeting, producing, and presenting national programs on consumer durable goods. Background includes department store buying and merchandising; promotion manager for marketing company selling through 30,000 outlets; market research manager; account executive; vice-president for advertising. Harvard Business School. Married, 2 children. **1910.**

Sales and Advertising Manager—and his assistant, with long successful service with prominent 100,000 meter natural gas utility in the North fully experienced on active merchandising direct to customer with dealer cooperation. Wish to make connection with gas utility or manufacturer in Florida. **1911.**

Public Relations Director—experienced in all phases of public relations. Sound approach to community and customer relations. Would relocate. **1912.**

Personnel Manager—practical experience in recruitment, interviewing, hiring, and training. Can re-locate. **1913.**

POSITIONS OPEN

Technical Services Representative—exceptional opportunity. Manufacturer of water heaters, furnaces and air conditioners needs man for Product Service Division in Chicago. Position calls for all-around man to train company and customer salesmen, handle correspondence, bulletins, manuals and application problems. Applicant shou'd be 28 to 40 and have sales or engineering background. Limited travel. **0859.**

Manager Gas Property New England—nationwide company has challenging opening for progressive sales minded manager for manufactured and bottled gas utility serving a community of approximately 35,000. Send complete resume of experience. **0860.**

Operations Superintendent—opening in medium sized natural gas utility in Midwest for an able graduate engineer or equivalent to supervise construction, maintenance, service on customer premises, appliance installation, metering, pressure regulation and planning system expansion. Liberal benefits. Salary commensurate with experience and ability. State personal and educational qualifications. **0861.**

Gas Engineer—for one who is sales-inclined there exists an excellent opportunity with a long established manufacturer supplying gas utilities. Successful applicant will be trained at the plant in all phases of our business. Considerable travel would be necessary as well as locating in the Midwest. Age range 25-35. In reply give full disclosure regarding age, education and experience. **0862.**

Rate & Economic Research Man—Natural Gas—opportunity with natural gas pipeline company. College graduate, some engineering background; industrial competitive fuel analysis and operating company rate experience essential. Salary open, experience and capacity controlling. Send complete resume. **0864.**

Orange and Rockland Utilities, Inc., formed by merger

ROCKLAND Light and Power Co. and The Orange and Rockland Electric Co. have merged, in keeping with approval given by stockholders of both companies on Dec. 16. The new company's name is Orange and Rockland Utilities, Inc. Headquarters will be at 10 North Broadway, Nyack, N. Y.

Rockwell C. Tenney, formerly chairman of Rockland Light and Power, will serve as chairman and a director of the new company. Charles L. Hulwit will serve as president and a director.

Others named to management posts are: Richard L. Brickley, director; Herbert A. Burns, director; Samuel M. Cuddeback Jr., director; Maurice W. Dennison, director; Isaac S. Hall, director; Charles W. Hawkins, director; Cameron F. MacRae, director; Edward A. Merkle, director; Roscoe W. Smith, director, chairman of the finance committee and vice-president; Leland A. Smith, director and vice-president; Charles H. Tenney II, director and vice-chairman; Ralph E. Trower, director, treasurer, and assistant secretary.

Also, Charles W. Caldwell, vice-president; Francis E. Manley, vice-president; L. Earle Merrow, vice-president; Arlyn H. Palmatier, vice-president; Vernon M. F. Tallman, vice-president; Richard F. Alexander, assistant treasurer; George A. Carlson, assistant treasurer; Palmer Y. Epler, assistant treasurer and assistant secretary; Frank C. Helme, assistant treasurer; Herbert P. Faber, secretary; Ford S. Relyea, assistant secretary; and Kenneth W. Ford, auditor.

The only new officer elected by either company is Francis E. Manley, who has been associated with Rockland Light & Power for the past 34 years.

A.G.A.-approved appliances listed in Laboratories' new directory

THE January 1958 semi-annual issue of the A. G. A. Laboratories Directory of Approved Appliances and Listed Accessories is now available. It lists all gas appliances and accessories in current production which have been tested and approved by the A. G. A. Laboratories.

The directory is an invaluable guide to gas utilities, equipment manufacturers, city authorities, insurance and rating agencies, purchasing departments and others interested in the selection of approved gas equipment.

Gas equipment shown in the directory is arranged according to type under the name of the manufacturer. Listings are shown for appliances for use with natural, manufactured and mixed gases, liquefied petroleum gases and LP gas-air mixtures. Pertinent information on installation of the appliance in the field is presented.

The directory is issued in complete form each January and July. Each semi-annual issue provides a complete list of gas equipment certified by the A. G. A. Laboratories as of the first of the month in which it is published. Monthly supplements are issued for the intervening months.

Copies of the directory are available from the A. G. A. Laboratories, 1032 East 62nd St., Cleveland 3, Ohio. The annual subscription rate of $2 includes two semi-annual issues and 10 monthly supplements. Subscriptions are entered as of January or July. Single copies of semi-annual issues are available at 75 cents each, and monthly supplements cost 10 cents each.

Press booklet

THE NATIONAL LP-Gas Council recently released a 20-page booklet entitled *Working with the Press*, and a supplementary LP-Gas Fact Sheet. The booklet explains to readers how to find and place stories with news media, and advises dealers on what to do in the event of an accident. Lists of major story possibilities and explanations of how to write them are included. The supplementary sheet provides dealers with basic information about the LP-Gas industry.

Now in production

ROCKWELL Manufacturing Co. reports that its new 106,000-square-foot manufacturing plant and West Coast repair center is now in limited production. The new plant—first major industrial facility in the predominantly agricultural San Joaquin Valley community of 7,500—produces and repairs gas meters and other Rockwell products for the West Coast market. Employment is expected to increase gradually over the next year or two, as the plant approaches full production.

To spend $25 million

SAN DIEGO GAS and Electric Co.'s preliminary construction budget for this year totals over $25 million, which will be the company's second largest yearly capital expenditure in seven consecutive years of high expenditures. During the past six years about $125 million was invested in additional plant, property and equipment. About one-quarter of this year's budget will be invested in the gas production, storage, transmission, and distribution system.

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